Effects of the Project NetWork Demonstration Waiver Provisions

Final Report

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Prepared for
Leo McManus, Co-Project Officer
Social Security Administration
Room 545 Altmeyer Building
6401 Security Blvd.
Baltimore, MD 21235

Kalman Rupp, Co-Project Officer
Social Security Administration
Office of Research, Evaluation, and Statistics
500 E St. S.W., 9th Floor
Washington, D.C. 20254

Prepared by
Nancy R. Burstein
Erik Beecroft
Jordan Hiller
Michelle L. Wood

Abt Associates Inc.

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Executive Summary

The Social Security Administration (SSA) initiated Project NetWork in 1991 to test alternative case management approaches to providing rehabilitation and employment services to promote employment among beneficiaries of Social Security Disability Insurance (SSDI) and applicants for and recipients of Supplemental Security Income (SSI) for blind and disabled individuals. The Project NetWork demonstration was designed as a randomized field experiment through the collaborative efforts of the Office of Disability at SSA and the Office of the Assistant Secretary for Planning and Evaluation (ASPE) at the U.S. Department of Health and Human Services (HHS).

To allow rigorous evaluation, eligible persons who volunteered for the demonstration were randomly assigned to either a treatment group eligible to receive demonstration case/referral management services, or a control group who did not receive these services. To increase the incentive to work, all volunteers (those assigned to both the treatment and control groups) were also offered waivers of specific SSDI and SSI program rules considered to act as work disincentives. These work incentive waivers were intended to encourage participation in Project NetWork and the return to work activities it promoted, by assuring that participants would not be made worse off by these actions. For SSDI beneficiaries the waivers exempted earnings for a twelve month period when computing trial work period months and prevented benefit suspension for those who already had exhausted their trial work periods.[1] For SSI recipients, the waivers created a twelve month period during which earnings above $500 per month would not trigger the medical review of disability or blindness that could normally occur at that point.[2]

This report presents an analysis of the effects of these work incentive waivers on the earnings and disability benefit receipt of demonstration volunteers. The analysis seeks to answer two key questions regarding the waiver provisions: "Do the work incentive waivers result in increased earnings among participants?" and "What effects do the waivers have on the receipt of SSDI and SSI disability benefits?" In addition to addressing these important research questions, the current

1 The Trial Work Period (TWP), one of the standard work incentive provisions in the SSDI program was enacted as part of the Social Security Amendments of 1960 (P.L. 86-778). Each month in which earnings from work exceed $200 or self-employment exceeds 40 hours is counted as a TWP month. The TWP provision allows SSDI beneficiaries to have a total of nine such months during a rolling period covering the most recent five years. During the TWP benefits are unaffected by earnings. At the end of the TWP, a determination is made concerning the beneficiary's ability to sustain earnings at the substantial gainful activity (SGA) level. If earnings are lower than SGA levels, regular SSDI eligibility is continued. If earnings have consistently exceeded SGA during the Trial Work Period, cash benefits are then continued during a three-month grace period and the beneficiary simultaneously enters the 36 month Extended Period of Eligibility during which cash benefits are received in any month in which earnings fall below SGA and withheld in any months in which earnings exceed SGA.

2 As reported to us by SSA officials, however, these continuing disability reviews were not being conducted anyway at the time of the demonstration. This implies that the existence of the waivers did not change the situation faced by SSI recipients from what would normally occur.

report describes the procedures used to inform potential participants about the waiver provisions and the extent to which participants report understanding the nature of the waivers.

Demonstration Design

Project NetWork tested four models for providing employment and rehabilitation services. Each of the four models, distinguished by different institutional settings and staffing arrangements, was operated for 24 months in two sites during the early to mid-1990s:

- Model 1, the SSA Case Manager Model (Dallas and Fort Worth), featured the provision of case management services by SSA staff.

- Model 2, the Private Contractor Model (Phoenix/Las Vegas and Minneapolis), offered case management services delivered by private rehabilitation organizations under contract to SSA.

- Model 3, the VR Outstationing Model (New Hampshire and Richmond), featured the provision of case management services by State Vocational Rehabilitation Agencies, with case managers "out-stationed" in local SSA offices.

- Model 4, the SSA Referral Manager Model (Tampa/Carrollwood and Spokane/Coeur d'Alene), offered the least intensive case and referral management service, provided by SSA staff. Referral managers were to locate case management and other services for clients by accessing existing service providers in the community.

Participation in Project NetWork was voluntary. Members of the target population—SSDI beneficiaries and SSI applicants and recipients— were eligible to participate regardless of age, type or severity of disability, or other factors used in traditional vocational rehabilitation programs to screen out individuals judged not to be promising candidates for rehabilitation. Individuals who responded to demonstration outreach met with local demonstration staff and were provided a detailed explanation of the demonstration, and the opportunity to volunteer. Those wishing to volunteer were then randomly assigned to the treatment group or to the control group. Those assigned to the treatment group met individually with a case or referral manager who arranged for necessary assessments, developed an individual employment plan, and identified and arranged for rehabilitation and employment services needed to achieve the plan. Of the roughly 145,000 persons who were solicited for the demonstration, 8,248 volunteered and were randomly assigned.

The Evaluation

In 1992 Abt Associates Inc. was awarded a contract to evaluate the effects of Project NetWork. The evaluation uses information obtained from SSA administrative records as well as data collected from two in-person surveys of demonstration treatment and control group members and a baseline survey of a sample of eligible nonparticipants to examine the effects of the demonstration on participant earnings, employment, receipt of disability benefits, and other outcomes. The evaluation also assesses the costs and benefits of the demonstration, the decision of eligible individuals to volunteer for demonstration services, and the implementation and operations of the demonstration. Three previous evaluation reports describe the results of these analyses.

Implementation of Demonstration Waivers

We explored five conditions that would contribute to the anticipated effects of waivers on participants' earnings. Data from the baseline and follow-up interviews, and information collected from site visits and demonstration documentation, were used to answer the following questions:

- Did potential participants understand that working could lead to reduction or termination of benefits? *Only a minority of eligibles indicated that this was their understanding (41 percent for cash benefits, 31 percent for medical benefits). Somewhat higher proportions of Project NetWork participants had this basic understanding, but still less than half.*

- Were potential participants interested in working, but deterred by the prospect of losing benefits? *About three-quarters of potential eligibles expressed interest in working, and nearly 60 percent said they would try to do so if they wouldn't lose benefits. About a quarter indicated, however, that they would turn down a job offer rather than lose cash or medical benefits. Project NetWork participants reported more interest in working than other eligibles, and were about equally likely to be deterred by the prospect of losing benefits.*

- Did case/referral managers effectively communicate the waiver rules to potential participants? *SSA developed protocols for communicating the waiver provisions, but we were unable to determine whether these were followed consistently.*

- Did potential participants understand the waiver provisions? *The great majority of eligible individuals reported never having heard of Project NetWork, despite having recently been solicited to participate in the demonstration. Project*

NetWork participants exhibited substantial confusion about work incentives under the waivers, both at baseline and two to three years later.

- Were the waiver provisions administered effectively? *Although direct evidence is not available, it seems unlikely that they were.*

Although work at the substantial gainful activity level may not be a reasonable expectation for a substantial proportion of the SSI and SSDI caseloads, the Project NetWork participants expressed a clear and definitive desire to attempt work. The message communicated by case and referral managers—that returning to work was not an impossible dream and that SSA would still support those who took some steps towards independence—may have played as substantial a role in encouraging employment as the specific provisions of the waivers.

Methods for Analyzing Waiver Impacts

The random assignment of volunteers to treatment and control groups allowed for experimental analysis of the net impacts of the Project NetWork case and referral management services. Because the work incentive waivers were offered to both treatment and control group members, however, the analysis of waiver effects relies on nonexperimental methods.

The choice of analytic methods was limited by several features of the data: information on earnings was only available on a calendar year basis; information on earnings was furthermore only available as averages for predefined groups of 10 or more individuals (to protect the privacy of individuals); and no data at all were available on either earnings or benefits receipt for individuals who had left the rolls prior to solicitation. Given these constraints, it was decided to use three different methods of impact estimation, varying by outcome type (earnings *versus* disability benefits) and by beneficiary type (ongoing *versus* new SSI applicant). The methods used included a fixed effects model, a contemporaneous comparison group approach, and a prior comparison group approach.

Waiver Impact Findings

The results of the nonexperimental analysis provide little or no evidence that the Project NetWork waivers by themselves affected the earnings of SSDI beneficiaries, ongoing SSI recipients (including dually-eligible clients), or SSI applicants. The overall estimated impacts of waivers on earnings were not statistically significant for any of these three subgroups.

Similarly, there is little evidence that waivers affected SSDI or SSI receipt. One possible exception is for SSDI beneficiaries, for whom waivers may have increased SSDI participation in the short-run. Such an effect might be expected, even if the waivers had no effect on earnings, as the waivers protected those who would have worked anyway from losing their benefits.

Moreover, the positive estimate for this subgroup is probably not due to selection effects, which could be expected to bias the estimates negatively. In any case, the estimated impacts on SSDI participation were quite small. For the other subgroups, estimated impacts on participation and payments are generally small and not statistically significant.

The results of this analysis do not rule out the possibility that effective earnings incentives can be designed for SSDI and SSI beneficiaries or that existing earnings incentives are effective for a different group of beneficiaries in current disability programs. The survey data discussed in Chapter Two show that the great majority of clients—both Project NetWork participants and nonparticipating eligibles solicited for the demonstration—want to work, and Project NetWork participants indicated a strong interest in receiving the waivers.

Chapter One
Introduction

Project NetWork was a demonstration initiative of the Social Security Administration (SSA), initiated in 1991 to test alternative methods of providing rehabilitation and employment services to SSDI beneficiaries and SSI disabled/blind recipients and applicants. The Project NetWork demonstration used a case management approach to provide services and to encourage and facilitate movement into the labor force for this population. Having solicited more than 145,000 individuals for participation, Project NetWork is the largest return-to-work demonstration targeting SSDI beneficiaries and SSI recipients and applicants ever undertaken.

Project NetWork was initiated under the research and demonstration authority of Section 505(a) of the Social Security Amendments of 1980 (P.L. 96-265) and the waiver authority of section 505(a)(3) of that statute and section 1110(b) of the Social Security Act. By conducting the demonstration as a randomized field experiment, SSA took a large step toward substantially expanding what is known about the feasibility and efficacy of rehabilitation and employment services for persons with severe disabilities. The ultimate goal of the demonstration was to return disabled beneficiaries to work, thereby helping them to improve the quality of their lives and lessen their dependence on government income support. The demonstration marked the first time that SSA provided services directly to its client population to help them enter or reenter the workforce. Project NetWork is also the first rigorous, large-scale evaluation of alternative methods of providing such vocational rehabilitation (VR) services.[1]

1.1 Demonstration Design

Project NetWork tested four distinct models for providing employment and rehabilitation services, distinguished by different institutional settings and varying staffing arrangements. Each of the four models was operated for 24 months in two sites during the early to mid-1990s:

- Model 1, the SSA Case Manager Model (Dallas and Fort Worth), featured the provision of case management services by SSA staff.

- Model 2, the Private Contractor Model (Phoenix/Las Vegas and Minneapolis), also offered case management services, but delivered by private rehabilitation organizations under contract to SSA.

1 Rupp, Bell, McManus (1994).

- Model 3, the VR Outstationing Model (New Hampshire and Richmond), featured the provision of case management services by State Vocational Rehabilitation Agencies, with case managers "out-stationed" in local SSA offices.

- Model 4, the SSA Referral Manager Model (Tampa/Carollwood and Spokane/Coeur d'Alene), offered a less intensive service, referral management, provided by SSA staff. Referral managers were to locate case management and other services for clients by accessing existing service providers in the community.

Each site operated the demonstration for a total of 24 months, with recruitment occurring over a 15-month period. Model 1 was the first to implement the project in June 1992, followed by the other models in early 1993. The last site concluded operations in April 1995.

Participation in Project NetWork was voluntary, and members of the target population were eligible to participate regardless of age, type or severity of disability, or other factors used in traditional vocational rehabilitation programs to screen out persons judged not to be promising candidates for rehabilitation.[2] Individuals who responded to demonstration outreach met with local demonstration staff and were provided a detailed explanation of the demonstration and the opportunity to volunteer. Those wishing to volunteer were then randomly assigned to the treatment group which received the case/referral management services or to the control group, which did not receive these services. After random assignment, those assigned to the treatment group met individually with a case or referral manager who arranged for necessary assessments, developed an individual employment plan, and identified and arranged for rehabilitation and employment services needed to achieve the plan.

In addition to the case management/referral management services, the demonstration waived specific SSDI and SSI program rules (for both treatment and control group members) that are considered to act as work disincentives. These waivers allowed beneficiaries to try work for a longer period than normally allowed without losing disability benefits.

1.2 Evaluation of Project NetWork

In 1992 Abt Associates was awarded a contract to evaluate the impacts of Project NetWork on participant employment, earnings, receipt of transfer benefits, social and psychological well-being, and other outcomes. The evaluation features a randomized experimental design and the collection of various types of data: SSA administrative data from the Master Beneficiary Record (MBR), Supplemental Security Record (SSR), and Master Earnings File (MEF); automated MIS data from the demonstration sites; information on demonstration operations from visits to sites;

2 Burstein et al. (1998) present an analysis of participation in the demonstration including participation rates among various subgroups of interest. That analysis found that 4.5 percent of those eligible for Project NetWork responded to demonstration outreach and volunteered.

and data from in-person baseline and follow-up interviews with treatment and control group members and a baseline interview with eligible nonparticipants. A process analysis that assessed the implementation and operations of the demonstration was completed in 1996 [3]. A participation analysis, completed in 1998, explored the decision to participate in Project NetWork and participation rates across key subgroups of the eligible population[4]. The final evaluation report presents the results of the analysis of net impacts, costs, and benefits.

The work incentive waivers offered to Project NetWork participants were designed as an incentive to volunteer for the demonstration, as well as an intervention to be investigated in its own right. The current report explores the effects of these waivers on the employment and earnings of demonstration participants. The analysis seeks to answer a key question regarding the waiver provisions: "Do the work incentive waivers provided in the demonstration result in increased employment and earnings among participants?" In addition to addressing this important research question, the current report describes the procedures used to inform potential participants about the waiver provisions and the extent to which participants report understanding the nature of the waivers.

1.3 Benefit Rules and Standard Work Incentives

Before describing the provisions of the waivers offered in the Project NetWork demonstration and their potential effects on participant employment, it is useful to review the current benefit rules and existing work incentives for the SSDI and SSI programs.

1.3.1 SSDI

To qualify for Social Security Disability Insurance (SSDI) benefits, an individual must have worked long enough in covered employment and then have become unable to work regularly at substantial gainful activity (SGA) levels due to a physical or mental impairment.[5] Once certified on this basis, an initial five-month waiting period is required before SSDI benefits are paid. The individual's monthly benefit amount is determined as a percentage of his/her monthly earnings prior to the onset of the disability. Medicare health insurance is also provided after receiving SSDI for 24 months. Absent medical improvement, cash and medical benefits continue until age 65, at which point the individual enters the regular Social Security retirement program. Recovery is deemed to occur in two situations: if the individual is judged able to work at SGA levels based

3 Wood, et al. (1996).

4 The results of the participation analysis are reported in Burstein et al. (1998).

5 The impairment must be medically determinable and expected to last not less than 12 months or result in death. The SGA threshold earnings level is currently set at $500 per month for non-blind individuals and $1,050 per month (1998) for blind beneficiaries.

on a medical review (medical recovery),[6] or if earnings rise above SGA levels for a sustained period (work recovery).[7]

Decisions regarding termination of SSDI benefits due to work recovery are conducted within the context of a set of rules known as work incentives, displayed in Exhibit 1.1. In general, the work incentives provide SSDI beneficiaries with an opportunity to attempt employment without immediately losing eligibility for cash and medical benefits. The Trial Work Period (TWP) was enacted as part of the Social Security Amendments of 1960 (P.L. 86-778).[8] Each month in which earnings from work exceed $200 or self-employment exceeds 40 hours is counted as a TWP month. The TWP provision allows SSDI beneficiaries to have a total of nine such months during a rolling period covering the most recent five years. During the TWP benefits are unaffected by earnings. At the end of the TWP, a determination is made concerning the beneficiary's ability to sustain earnings at the SGA level. If earnings are lower than SGA levels (i.e., $500/month), regular SSDI eligibility is continued. If earnings have consistently exceeded the level of SGA during the TWP and continue to exceed SGA, cash benefits are then continued during a three month grace period, and the beneficiary simultaneously enters the 36 month "Extended Period of Eligibility" (EPE).[9] During this time, cash benefits are received in any month in which earnings fall below SGA, and benefits are withheld in any month in which earnings exceed SGA. SSDI benefits can be continued following the EPE if the beneficiary is not earning at the SGA level when the EPE ends; if the beneficiary is earning at or above the SGA level, cash benefits stop at the end of the EPE and Medicare coverage ends three months after that (however, individuals who remain medically disabled but are earning more than the SGA level may purchase continued Medicare coverage).

1.3.2 SSI

The Supplemental Security Income (SSI) program for blind and disabled Americans is a means-tested transfer program with income and asset tests but no requirements as to prior employment. Anyone certified as blind or disabled (using the same definition of disability as in the SSDI program) and whose earnings fall below $500 per month with countable assets below $2,000, can receive SSI cash benefits. SSI recipients are generally eligible for Medicaid coverage as well. Unlike SSDI payments, SSI cash awards are reduced 50 cents for every dollar of earned income above $65 per month. Earnings above $500 a month may trigger a special medical review,

6 In theory, medical reviews occur regularly at intervals determined by the beneficiary's medical prognosis, usually every 1 to 3 years. Those most likely to recover are scheduled for reviews most often. Not all reviews occur as scheduled, however.

7 In either instance, the individual may reapply for benefits later if his/her health deteriorates.

8 See Muller (1992).

9 The EPE was originally enacted as a period of 15 months beginning in the month following the ninth month of the TWP, as part of the Social Security Disability Amendments of 1980 (P.L. 96-265). The Omnibus Reconciliation Act of 1987 (P.L. 100-203) lengthened the EPE to 36 months.

Exhibit 1.1
Work Incentive Provisions for the SSDI Program

Name	Description
Impairment-Related Work Expenses	Allows for the cost of certain impairment-related items and services that a person needs to work to be deducted from earnings when figuring substantial gainful activity (SGA). Applies to determination of both initial and continued eligibility.
Trial Work Period	This provision guarantees payment of the full benefit amount during a trial of employment. Each month in which earnings are greater than $200 contributes to the trial work period. The trial work period is exhausted when 9 such months are accumulated in a rolling five-year period. Following a successful trial work period, benefits are extended for a three month grace period, then they stop.
Extended Period of Eligibility	For 36 months following a successful trial work period, the extended period of eligibility allows cash benefits to be reinstated immediately during any month in which earnings fall below the SGA level. Benefits may be extended beyond the end of this period if SGA levels are not sustained.
Continuation of Medicare Coverage	Premium-free Medicare coverage is given for 39 months following a successful trial work period, provided that disability status remains unchanged.
Medicare for People With Disabilities Who Work	After premium-free Medicare coverage ends, SSDI beneficiaries may elect to purchase Medicare coverage at the same cost paid by uninsured eligible retired beneficiaries.

Source: Adapted from SSA's *Red Book on Work Incentives (1994)*.

which— if the recipient is found to have recovered from his or her disability—can result in immediate suspension of cash and medical benefits.

The work incentive provisions for the SSI program are shown in Exhibit 1.2. Particularly relevant here are the provisions enacted under section 1619 of the 1980 amendments to the Social Security Act (P.L. 99-643).[10] Section 1619(a) permits recipients who work at SGA levels to continue to receive cash benefits as long as their medical disability status is unchanged and they continue to meet all other eligibility requirements. Section 1619(b) applies to individuals whose SSI cash benefit amount is reduced to zero by earnings, allowing those who are still disabled and meet other eligibility requirements to continue receiving Medicaid coverage. Medicaid coverage is continued under Section 1619(b) as long as earnings are beneath a threshold amount, determined by SSA, above which earnings are considered sufficient to replace SSI and Medicaid benefits. Taken together, the Section 1619 provisions are designed to make the transition to work easier for SSI recipients.

10 Social Security Administration (1998).

Exhibit 1.2
Work Incentive Provisions for the SSI Program

Name	Description
Impairment-Related Work Expenses	Allows for the cost of certain impairment-related items and services that a person needs to work to be deducted from earnings, for initial eligibility determination and for calculation of monthly payment.
Earned Income Exclusion	Allows half of earned income after the first $65 to be excluded when calculating the monthly payment.
Student Earned Income Exclusion	If SSI beneficiary is under age 22 and regularly attending school, $400 per month of earned income can be excluded from benefit payment calculations, up to an annual limit of $1,620. The standard earned income exclusion is applied to remaining earnings after the student earned income exclusion is figured.
Blind Work Expenses	Earned income used by a blind person to meet expenses associated with employment is excluded from benefit payment calculations. This exclusion is applied after the standard earned income exclusion is figured.
Plan for Achieving Self-Support (PASS)	SSI applicants/recipients are allowed to set aside income and/or resources to be used for a work goal, such as education, vocational training, or starting a business. Resources set aside under this plan are not counted towards the $2,000 resource limit. Income that is set aside is excluded from benefit payment calculations in the same manner as blind work expenses.
Property Essential to Self-Support	Certain resources that are essential to self-support, such as tools or equipment needed for work, are excluded from resource determinations.
Special SSI Payments for People Who Work (Section 1619(a))	Continued receipt of SSI cash benefits is allowed for recipients whose earnings exceed SGA levels. Benefit payments are calculated in the same way as for those not working at SGA levels. Disability status must be unchanged, and other eligibility requirements must still be met.
Continued Medicaid Eligibility (Section 1619(b))	Continued Medicaid coverage is allowed for SSI recipients whose earnings are too high for them to receive cash benefits. Disability status must be unchanged, other eligibility requirements must be met, and gross earned income must be insufficient to replace SSI, Medicaid, and any publicly-funded attendant care.

Source: Adapted from SSA's *Red Book on Work Incentives (1994)*.

1.4 Evidence Regarding Effectiveness of Standard Work Incentives

Do the existing work incentives motivate beneficiaries to seek and keep employment, and ultimately leave the disability rolls? There is a relative dearth of empirical evidence concerning the effectiveness of work incentive provisions under the SSDI and SSI programs, compared to what is known about similar provisions under non-disability transfer programs such as AFDC (now TANF) and the Food Stamp program.[11] The few extant data that bear on the effectiveness of SSDI and SSI work incentives are not encouraging. They indicate that most beneficiaries are unaware of the existence of work incentives; even when beneficiaries know of these rules, they are generally not well understood; and furthermore, the current work incentive provisions appear ineffective in promoting work. We briefly review the studies that suggest these conclusions.

1.4.1 Existence of Work Incentives Is Not Well Known

Only about 20 percent of SSDI beneficiaries surveyed in the New Beneficiary Follow-up Survey indicated that they were aware of *any* work incentive provisions that allowed them to test their ability to work.[12] Of these, most were aware of the TWP provisions; fewer were aware of the extended period of eligibility and extended Medicare coverage. Moreover, very few reported having been influenced by the provisions in their decisions regarding work attempts. There are no comparable data on knowledge of work incentives for SSI recipients. One reason that many beneficiaries are not well informed is that there is no formal mechanism for explaining the work incentives during the process of applying for and obtaining benefits. Through group discussions with SSA claims representatives, a GAO report (1996) found that during the application process, attention is focused on establishing the disability status of applicants, rather than exploring future work prospects. If work is discussed at all, it is usually to warn applicants when benefits will be reduced or lost. Because the application process is quite similar for SSDI and SSI, it seems reasonable to assume that SSI recipients may be as uninformed about work provisions as SSDI beneficiaries.

Additional information about the extent to which beneficiaries understand the complex rules governing work and benefits is available from SSA claims representatives and disability advocates (GA) 1996). These informants report that the complexity of the work incentive provisions make it difficult to explain how to apply them to an individual beneficiary's situation. This complexity is magnified for those beneficiaries who simultaneously receive both SSI and SSDI benefits (approximately 11 percent of all beneficiaries; GAO, 1996), and are therefore subject to two separate sets of work incentives. The Project NetWork baseline and follow-up

11 Hoynes & Moffitt (1996).

12 A series of articles (Hennessey and Muller, 1994 and 1995; Hennessey, 1996 and 1997), analyzed information regarding the work activity of SSDI beneficiaries, using data from the New Beneficiary Follow-up Survey (NBF). The NBF survey consists of second interviews with a cohort of SSDI beneficiaries originally entitled for benefits between June 1980 and June 1981. This cohort was first interviewed in 1982 (the New Beneficiary Survey), with follow-up interviews approximately nine years later.

surveys contained several questions aimed at measuring knowledge of work incentives and the special waiver provisions available to Project NetWork participants. An analysis of the responses to these questions appears in Chapter 2.

1.4.2 Effects of Work Incentives

It is difficult to gauge the effect of work incentives, because a large proportion of the disability caseload is unlikely to be able to work at all, regardless of the incentives that are offered. Although it is difficult to determine precisely who is able to work, one estimate is that about one third of the beneficiary population may have good rehabilitation potential (GAO, 1996). Given this estimate, it is telling that only 10 percent of SSDI beneficiaries in the New Beneficiary Survey have any record of work activity in a ten-year period following entitlement and only 2 percent of respondents indicated that the work incentives influenced their decision to seek employment.[13] And if few disability beneficiaries attempt work, fewer still achieve earnings levels over extended periods of time that allow them to leave the disability rolls. A study of the SSDI work incentives conducted by the Department of Health and Human Services Office of Inspector General (1993) found that over 75 percent of SSDI beneficiaries who completed a trial work period continued to receive cash benefits. Muller (1992) estimated that work recovery occurred for fewer than three percent of SSDI beneficiaries in the New Beneficiary Survey, and one third of these were receiving SSDI benefits again within ten years.

Several reasons why the standard work incentives may not be effective in encouraging work have been described. First, the long process of disability determination (especially if the initial claim is denied and the applicant appeals the decision) that is necessary to secure benefits causes applicants to become focused on proving their inability to work, and may leave them with little motivation to work once benefits are granted (GAO, 1996). Furthermore, work skills and marketability degrade for applicants who cannot work during the application process. Also, the structure of the work incentives do not provide motivation for beneficiaries who do attempt work to keep working and forgo benefit payments. It has been noted that some of the work incentive rules actually function as disincentives (GAO, 1996). For example, under the current rules it is possible for SSDI recipients to receive benefits indefinitely as long as their earnings remain below $500 a month and their disability status remains unchanged. Many SSDI beneficiaries who complete a trial work period by working at levels above SGA subsequently reduce their earnings below $500, to avoid loss of benefits (Office of Inspector General, 1993). The all-or-nothing nature of SSDI payments made it more profitable for beneficiaries with low earnings to stop or reduce work and continue receiving SSDI payments.

13 Hennessey and Muller (1994) op cit.

1.5 Project NetWork Waiver Provisions

The waivers offered to Project NetWork participants were in addition to the standard work incentives discussed above. The demonstration waivers could be activated at any point within 24 months after random assignment, and remained in effect for twelve consecutive months following activation. The waivers were activated in the first month in which earnings from employment exceeded $200 or self-employment exceeded 40 hours (the same criterion used to determine a Trial Work Period (TWP) month). Once in effect the waiver continued through the twelfth consecutive month regardless of subsequent employment activity.

Waiver provisions affected SSDI and SSI benefit rules in different ways. During the 12 months in which waiver provisions were in effect:

- **For SSDI beneficiaries**, no month could be counted as part of the trial work period, or result in benefit interruption for those who were in the extended period of eligibility.

- **For SSI recipients**, work and earnings above $500 per month could not trigger the special disability or blindness review that could normally occur at that point, although earnings were still considered as countable income in determining the SSI benefit amount.

The general effect of these waivers, then, was that from the point of activation until a year later, disqualification from SSDI or SSI through employment was impossible. For SSDI beneficiaries, the provisions held participants harmless for any earnings they generated during that year. For SSI recipients, earnings were still considered in the determination of benefits, but termination from the program was prevented by the waivers. However, it should be noted that at the time of the demonstration, the continuing disability reviews that the waivers were intended to prevent were not being conducted on a regular basis. The waivers could therefore be considered more beneficial for SSDI beneficiaries than for SSI applicants and recipients.

It should also be noted that although the waivers protected participants against loss of disability benefits from SSA during the period they were in effect, it is still possible that increased earnings due to employment could have affected eligibility for other types of federal or state benefits such as food stamps, housing assistance, energy assistance, or others.

1.6 Potential Effects of the Waiver Provisions on Project NetWork Participants

The waiver provisions could be expected to affect two important sets of outcomes: the employment and earnings of demonstration participants and receipt of SSDI and SSI benefits.

In terms of employment, the decisions to be made by SSDI beneficiaries and SSI recipients can be viewed as a reservation wage problem. There is some (monthly) reservation wage for each beneficiary below which it is not in that person's interest to attempt to return to work. Below this monthly earnings level, the costs of attempting work are too high relative to the expected gain. Costs include the out-of-pocket costs and time sacrificed in working, plus the possibility of temporary or even permanent loss of disability and medical benefits because of earnings. These are to be compared to the prospect of higher overall income (net of benefit reductions), personal satisfaction and enhanced self-esteem from employment, and a more attractive lifestyle through successful employment, if success is achieved. For 12 months, the waivers were designed to remove the last of the cost components from this equation: the threat of losing benefits and medical insurance—and having overall income decline—if the attempt at reemployment failed. The waivers provided a 12-month window in which a beneficiary could safely attempt the transition to employment without having to worry about whether the long-term risks outweighed the potential gains. During that year, both work effort and earnings were expected to increase. We also expected that a year's progress toward self-sufficiency might bring some participants within view of long-term success who would not otherwise have reached that point, inducing longer-run increases in employment and earnings.

In terms of receipt of SSI and SSDI benefits, it was expected that the NetWork waivers might have had two potentially offsetting effects. In the short run, they may have increased benefit payments to those who would have worked at SGA levels even without the waivers. Within this group, some would have become ineligible for benefits absent the waivers as they exhausted their SSDI trial work periods or were found to have medically recovered based on an SSI special disability review. The waivers prevented these outcomes, or at least postponed them 12 months, adding costs to the Social Security Trust Funds. Over the longer term, the hope was that the waivers would reduce Trust Fund costs by inducing more beneficiaries to make a successful transition to sustained employment at the SGA level. This effect could occur even without successful implementation of the waiver exemptions, although failure to "hold harmless" working participants could interrupt their momentum toward self-sufficiency while continued benefit eligibility was confirmed.

1.7 Organization of the Report

The remainder of this report is organized as follows. Chapter 2 describes the processes used by demonstration staff to inform potential demonstration participants about the existence of the waivers, the implementation of the provisions, and participants' reported understanding of the waivers. This analysis draws on information from demonstration documents and procedures manuals and data from the baseline and follow-up surveys. Chapter 3 describes the data and methodology used to assess the impacts of the waiver provisions on participants' earnings and receipt of disability benefits. Chapter 4 presents the findings from the analysis of waiver impacts.

Chapter Two
Waiver Implementation

The Project NetWork waivers were designed to encourage participants to attempt to find and keep employment, by protecting them from loss of benefit eligibility due to employment activity during a twelve month period. The waivers were offered with two purposes. The first was to encourage participation in the demonstration, despite the chance of being randomly assigned to the control group and not receiving demonstration services. The second was potentially to affect the employment decisions of eligible individuals—SSI applicants, SSI recipients, and SSDI beneficiaries—by modifying the work incentives under the ordinary SSI and SSDI rules. Thus, the effects of the waivers are of interest in and of themselves.

The waiver offer is most likely to have achieved its goals of motivating Project NetWork participation and encouraging participants to obtain employment if the following conditions hold:

(1) Eligible individuals should understand the general structure of work incentives under standard SSI and SSDI rules. While their understanding is likely to be imperfect, at minimum they should realize that working can lead to reduction or discontinuation of benefits under certain conditions.

(2) Eligible individuals are interested in attempting employment, but wary of losing benefits. Waivers are not likely to be attractive to those who would rather receive benefits than attempt employment, and may be unnecessary for those whose greatest wish is to return to work.

(3) Case/referral managers should communicate the waiver rules effectively to potential demonstration participants.

(4) Waiver provisions should be understood by potential participants. They probably will not understand the rules governing waivers completely; but they should at least realize that the waivers provide them an opportunity to work without incurring certain penalties that would result under the normal rules.

(5) Finally, the waiver provisions should be administered effectively. That is, waivers should function as they were designed to, postponing or suspending the trial work period (TWP) for SSDI beneficiaries, and preventing the medical disability review that potentially occurs for SSI recipients when they earn more than $500 in a month, during the year the waiver provisions are activated. Implementation failures for individual recipients and beneficiaries, while affecting their SSI and SSDI benefits,

will not affect their employment decision; by the time of the implementation error, the employment decision has already been made. However, such implementation failures may adversely affect future employment decisions. Furthermore, the credibility and fairness of the waiver provisions depend on the integrity of their administration. If potential participants perceive that the waivers are not being implemented properly, the effectiveness of the waivers is likely to be diminished.

In the sections that follow we address each of these points, using information from demonstration operations procedures manuals and site visits, as well as data collected on the baseline and follow-up surveys.

2.1 Knowledge about Standard Work Incentives

As noted above, an important condition for the waivers to affect earnings is that potential participants understand how working affects their cash and medical benefits in the absence of waivers. To assess knowledge of standard work incentives, two items were included on the baseline survey administered to SSI applicants, SSI recipients, and SSDI beneficiaries within a few months of solicitation.

The first of these items was:

> *Normally, if a person is receiving Social Security benefits and then starts working for pay, their income benefits will be reduced or stopped even if they work for only a few months.*

Respondents were asked to agree or disagree. This item is a true statement for anyone receiving SSI, because earnings are effectively taxed at 50 percent. The statement is not true for beneficiaries who receive SSDI only, because of the Trial Work Period.

The second item was:

> *Normally, if a person is receiving Social Security benefits and then starts working for pay, their medical benefits will not be affected no matter how long they work.*

This statement is essentially false; SSI recipients and SSDI beneficiaries will eventually lose Medicare and Medicaid benefits if they go back to work. (While an individual could continue to receive Medicaid benefits indefinitely if their earnings stayed below the threshold, the thrust of this question was the time dimension of work incentives.)

Fewer than half of Project NetWork participants, and an even smaller fraction of the entire disability population, responded correctly to these questions (Exhibit 2.1). Among Project

Exhibit 2.1
Knowledge About Standard Work Incentives

	Percent of Responses	
	All Eligibles	Project NetWork Participants
SSI Recipients and Applicants not receiving SSDI:		
Normally, if a person is receiving Social Security benefits and then starts working for pay, their income benefits will be reduced or stopped even if they work for only a few months.		
Agree/Strongly Agree †	41%	46%
Disagree/Strongly Disagree	17	25
Don't Know/Refused	43	29
SSDI Beneficiaries not receiving SSI:		
Normally, if a person is receiving Social Security benefits and then starts working for pay, their income benefits will be reduced or stopped even if they work for only a few months.		
Agree/Strongly Agree	39	45
Disagree/Strongly Disagree †	28	41
Don't Know/Refused	34	14
Concurrent SSI/SSDI Beneficiaries:		
Normally, if a person is receiving Social Security benefits and then starts working for pay, their income benefits will be reduced or stopped even if they work for only a few months.		
Agree/Strongly Agree †	51	54
Disagree/Strongly Disagree	8	31
Don't Know/Refused	42	15
All Recipients and Beneficiaries:		
Normally, if a person is receiving Social Security benefits and then starts working for pay, their medical benefits will *not* be affected no matter how long they work.		
Agree/Strongly Agree	14	23
Disagree/Strongly Disagree †	31	39
Don't Know/Refused	55	38

† Indicates response consistent with entitlement rules
Source: Baseline Survey

NetWork participants, the question about cash benefits was answered correctly by 46 percent of those who were SSI recipients but not SSDI beneficiaries, by 41 percent of those who received SSDI only, and by 54 percent of concurrent beneficiaries. The corresponding percentages for the disability population as a whole were somewhat lower: 41, 28, and 51 percent. It is not surprising that potential participants are less knowledgeable than actual participants; disabled individuals with no real likelihood of working may have felt no need to understand the work incentive rules.

The proportions just cited should be viewed as upper bound estimates of respondents' understanding of standard work incentives. Undoubtedly some individuals guessed the correct answers without knowing that they were correct. In addition, strikingly large percentages of all groups responded "don't know" to this question: 15 to 29 percent of Project Network participants, and 34 to 43 percent of Project NetWork eligibles.[1]

Similarly, the proportion that was aware that their medical benefits would eventually be affected was 39 percent among Project NetWork participants, and 31 percent among the entire disability population, while large fractions of both populations (38 percent and 55 percent, respectively) responded "don't know" to this item as well.

We conclude that knowledge of standard work incentives is quite limited, both among Project NetWork participants and among the disability population in general. This circumstance is suggestive of only a limited role for waivers as a potential work incentive.

2.2 Interest in Work

Two aspects of participants' attitudes towards work could affect the success of the demonstration waivers. First, do respondents want to work? Waivers will not be effective in motivating those who would rather receive disability benefits than attempt to work. Second, do respondents who wish to work refrain from seeking employment for fear of losing benefits? Waivers can motivate eligible individuals to work if one of the main impediments to work is the disincentive posed by potential loss of benefits.

Work motivation was assessed on the baseline survey by a series of attitudinal items with which respondents were asked if they strongly agreed, agreed, disagreed, or strongly disagreed (Exhibit 2.2). Respondents reported being interested in work for a variety of reasons, including financial gain (73 percent), personal satisfaction (71 percent), and alleviation of loneliness (44 percent) and boredom (53 percent).

1 Although refusals are combined with "don't know's" in these exhibits, only a handful of respondents refused to answer any of the questions.

Exhibit 2.2
Work Motivation

	Percent of Responses	
	All Eligibles	Project NetWork Participants
I want to work in order to make more money.		
Agree/Strongly Agree †	73%	93%
Disagree/Strongly Disagree	12	4
Neither Agree nor Disagree/Refused	15	3
I would be ashamed of myself if I didn't try to work.		
Agree/Strongly Agree †	52	71
Disagree/Strongly Disagree	31	18
Neither Agree nor Disagree/Refused	17	11
I am too old to work.		
Agree/Strongly Agree	7	2
Disagree/Strongly Disagree †	81	93
Neither Agree nor Disagree/Refused	12	5
I get lonely when I don't have a job.		
Agree/Strongly Agree †	45	55
Disagree/Strongly Disagree	38	30
Neither Agree nor Disagree/Refused	17	16
Work is very satisfying.		
Agree/Strongly Agree †	71	85
Disagree/Strongly Disagree	9	3
Neither Agree nor Disagree/Refused	20	12
My family and friends might think poorly of me if I didn't try to work.		
Agree/Strongly Agree †	31	38
Disagree/Strongly Disagree	46	40
Neither Agree nor Disagree/Refused	23	23
It would bother me if I didn't try to work.		
Agree/Strongly Agree †	50	73
Disagree/Strongly Disagree	30	18
Neither Agree nor Disagree/Refused	20	9

	Percent of Responses	
	All Eligibles	Project NetWork Participants
I get bored when I don't have a job.		
Agree/Strongly Agree †	53	71
Disagree/Strongly Disagree	32	19
Neither Agree nor Disagree/Refused	15	10
I want to work because that's what I'm expected to do.		
Agree/Strongly Agree †	31	40
Disagree/Strongly Disagree	43	37
Neither Agree nor Disagree/Refused	26	22
I really don't want to work.		
Agree/Strongly Agree	10	2
Disagree/Strongly Disagree †	73	92
Neither Agree nor Disagree/Refused	16	6

† Response favorable for work
Source: Baseline Survey

Project NetWork participants expressed considerably more motivation for working than did demonstration eligibles in general. Strikingly, 92 percent of all participants disagreed or strongly disagreed with the statement "I really don't want to work", and only 2 percent agreed or strongly agreed. In contrast, 73 percent of eligibles disagreed or strongly disagreed with the statement, while 11 percent agreed or strongly agreed.

Another group of questions explored respondents' attitudes regarding the tradeoff between disability benefits and employment. Over a quarter of all eligibles (29 percent) indicated that they would turn down a job offer if it meant losing medical benefits, and nearly a quarter (23 percent) reported that they would do so if it meant losing cash benefits (Exhibit 2.3). These figures suggest that a substantial minority of eligibles are inhibited from working by a fear of losing their disability benefits, and might be more likely to attempt work if their benefits could be protected. Overall, when all eligibles were asked if they would try to work if their benefits would not be affected for a year, 61 percent replied that they would.

Despite this evidence supporting the theoretical attractiveness of waivers to eligibles, a much smaller proportion of eligibles (16 percent) indicated that they wanted to receive the Project NetWork waivers.[2] The overwhelming majority of eligibles (71 percent) indicated that they had never heard of Project NetWork before the interview despite the fact that all had recently been solicited to participate in the demonstration.

2 This was the only item in the survey that explicitly referred to the term "waivers".

Exhibit 2.3
Attitudes Regarding Tradeoff between Work and Disability Benefits

	Percent of Responses	
	All Eligibles	Project NetWork Participants
I would rather turn down a job offer than lose medical benefits, even if I could keep monthly cash disability benefits.		
Agree/Strongly Agree †	29%	29%
Disagree/Strongly Disagree	38	51
Don't Know/Refused	33	20
I would rather turn down a job offer than lose monthly disability benefits, even if I could keep medical benefits.		
Agree/Strongly Agree †	23	20
Disagree/Strongly Disagree	41	59
Don't Know/Refused	36	21
If I were allowed to work for an extra year without losing any disability or medical benefits then I would definitely try to work.	61	88
Agree/Strongly Agree †	15	4
Disagree/Strongly Disagree	23	9
Don't Know/Refused		
I want the waivers that Project NetWork volunteers get.		
Agree/Strongly Agree †	16	70
Disagree/Strongly Disagree	3	3
Don't Know/Refused	12	19
Not aware of Project NetWork	71	9

† Response favorable to waivers

Source: Baseline Survey

This contradiction between reported desire to work if benefits could be protected and lack of response to Project NetWork might reflect imperfect understanding of the standard work incentives or the waiver provisions, or the belief that waivers would not truly protect benefits as they were meant to do. Alternatively, respondents may have simply given the socially accepted response to the survey question, while being unwilling to take the steps necessary to act on that response.

It may seem odd that Project NetWork volunteers responded so similarly to eligibles in general to the first two items shown in Exhibit 2.3, and so differently to the last two items. The explanation may be the hidden assumption in the first two items, that the respondent does want to work. The tradeoff suggested between work and disability may be a false dichotomy for many eligibles, who would not take a job even with a waiver. This interpretation is supported by the high proportions that responded "don't know" to these two items—33 percent and 36 percent, respectively. (The "don't know's" comprised only 20 percent and 21 percent of Project NetWork participants for these two items.) For Project NetWork participants, in contrast with many other eligibles, the live alternative to working with a waiver is simply working without a waiver.

2.3 Communicating Waiver Information to Project NetWork Eligibles

Individuals solicited to participate in Project NetWork were to receive information about the waiver provisions at several steps in the outreach and intake process, using guidelines developed by SSA. Existing SSDI beneficiaries and SSI recipients who were solicited to participate via mail received a brief introduction to the waivers in the solicitation letter (Exhibit 2.4). While the solicitation letter did not offer a detailed explanation of the waiver provisions, it did inform solicitees that if they volunteered for the demonstration, they would be shown how to keep their benefits while working.

The Initial Project Solicitation script developed by SSA (Exhibit 2.5) gave more details about the waiver provisions, distinguishing the benefits to SSDI beneficiaries from those for SSI recipients. This script was to be used by case/referral managers when speaking with people who responded to the mail outreach (to set up an initial interview), by SSA claims representatives in explaining the demonstration to new SSI applicants, and by case/referral managers responding to inquiries from self-referrals or walk-ins. The Initial Project Solicitation informed potential volunteers that if they chose to participate in the demonstration, the case/referral managers would show them how to protect their disability benefits while testing their ability to get and keep a job. Although this script was intended to be used in all demonstration sites, we do not have information to indicate how consistently it was used across staff and across the sites. Individuals interested in the demonstration after making the initial response to outreach were scheduled for an initial interview with a Project NetWork case/referral manager. The purpose of the initial interview was to explain the demonstration in detail, collect information needed for the first three

screens of the Case Management Control System (CMCS) or its equivalent,[3] and determine whether the individual wished to volunteer for the demonstration. Those wishing to volunteer signed the informed consent form and were randomly assigned to the treatment or control group.

SSA provided talking points to case/referral managers for conducting the initial interview, including a more detailed description of the waivers than that offered in the Initial Project Solicitation. Case managers were instructed to inform potential participants that the waivers were designed to ensure that no one would be worse off for having volunteered for the demonstration, and that their purpose was "to encourage your participation by increasing your chances of work success." In addition, case/referral managers were instructed to provide an example regarding the timing of the waiver protection. For example, SSDI beneficiaries were to be told:

> If you are receiving Social Security Disability Insurance (SSDI) benefits, we will not count your work activity and earnings against your eligibility for benefits for 12 consecutive months. This 12 months begins when you start work anytime in the next two years. For example, if you went to work in (THIS MONTH) this protection would start immediately and last until (THIS MONTH, NEXT YEAR). If you were to go to work in (THIS MONTH, TWO YEARS FROM NOW), this protection could last until (THIS MONTH, THREE YEARS FROM NOW).[4]

Likewise, SSI applicants or recipients were to be given an example of how the waivers would affect them:

> If you are eligible for Supplemental Security Income (SSI) benefits, and you go to work, we usually do a medical review of your disability within the first 12 months after you go to work. Under Project NetWork, if you go to work by (THIS MONTH, TWO YEARS FROM NOW) we will continue your disability eligibility without doing this review.

Again, all case/referral managers across all models were expected to use these talking points during the initial interview. Although we do not have complete information regarding the consistency with which these procedures were followed, we observed a small number of initial interviews during visits to demonstration sites and noted that staff followed the talking points in their discussions with potential volunteers. The information provided in the initial interview was intended to provide potential volunteers with an explanation sufficient to help them decide whether or not to volunteer for random assignment.

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3 The Case Management Control System (CMCS) and its equivalent in Richmond was the automated information system used to collect background information about potential volunteers and to track participation in the demonstration for those assigned to the treatment group.

4 These guidelines were documented in the demonstration procedures manuals developed by SSA. Specifically these instructions are found in Section 0250.000-3 of the Case Management Operating Procedures (CMOP) used in Models 1, 2, and 3, and the Referral Management Operating Procedures (RMOP) used in Model 4.

Individuals who volunteered for Project NetWork received two pieces of written information regarding the waiver provisions. Written information accompanying the informed consent form described the potential benefits of participation in Project NetWork, including extended work incentives for SSDI beneficiaries and an explanation of the 12 month waiver of the medical reexamination because of work for SSI recipients.

A Certificate of Participation (Exhibit 2.6) was also given to all treatment and control group members following random assignment. The certificate was signed by the case manager and provided a detailed explanation of the waiver provisions and the timeframe during which they would be in effect. The case/referral managers filled in information to indicate that the waivers could take effect any time up to 24 months after the date on which the informed consent was signed, and would provide protection for 12 months following that. In addition to providing the participant with a clear explanation of the waiver provisions, the Certificate was also intended as a backup to the paper and electronic file documentation maintained by SSA to implement the waiver provisions. Participants were instructed to retain the certificate and to present it to SSA benefits administration staff at any time in the future if questions arose about their benefit status. The form also reminded participants to notify the case/referral managers if they started working.

We conclude that appropriate procedures were in place for informing the disability population about Project NetWork waivers.

2.4 Project NetWork Participants' Knowledge about Waiver Rules

Four items intended to address respondents' knowledge about the rules governing the Project NetWork waivers were included in the baseline survey.[5] Responses by Project NetWork participants suggested that their understanding of the waivers was as unclear as their understanding of the standard work incentives (Exhibit 2.7). Less than half (48 percent) realized that even with a waiver, they would eventually lose some of their disability and medical benefits if they worked (and in fact, SSI recipients would lose benefits immediately). Yet only a little over a third (37 percent) disagreed with the statement that the waivers "don't really protect people from losing their disability or medical benefits". The paradox of overoptimism in response to the first item and pessimism in response to the second item is explained by the very large proportion of participants that responded "don't know" (including those who reported never having heard of Project NetWork) to each: 35 percent and 47 percent, respectively. With regard to whether Project NetWork volunteers could work longer before they lost any of their benefits—true for SSDI beneficiaries who were not receiving SSI, false for SSI recipients (including concurrent beneficiaries)—only 57 percent of the former and 13 to 14 percent of the latter responded with the correct answer. A bare majority of participants (56 percent) agreed that Project NetWork volunteers could lose benefits if they worked for two or more years, while more than a third (36 percent) didn't know or were unaware of Project NetWork.

A follow-up survey of 1,521 Project NetWork participants was conducted between 25 and 41 months after random assignment.[6] Asked on the survey about how the waiver rules affected benefits from the program(s) in which they participated, Project NetWork participants still exhibited confusion. Just over half correctly responded that the amount a person worked affected their benefits adversely (Exhibit 2.8). Only 21 percent of SSI applicants and recipients and concurrent beneficiaries realized that this change to SSI benefits would happen right away; and only 35 percent of SSDI beneficiaries and dual eligibles realized that SSDI benefits would be affected only after some months had passed. (It is possible that some of the confusion experienced with regard to SSI benefits is the result of administrative lags. Even though the SSI *entitlement* is affected immediately, several months might pass before the SSI check reflected the change.)

Another group of items on the follow-up survey asked respondents about their experiences with the waivers. Unexpectedly, an initial gateway question screened out most of the responses for the remaining items, when only 11 percent of respondents answered "yes" to the item, "Did any of the rules about monthly disability benefits or medical benefits change for you when you

5 Like the field materials and all but one of the items in the baseline survey, these items used language that may have been more familiar to beneficiaries than the term "waivers".

6 Details about the survey data used in this analysis are provided in Appendix A.

Exhibit 2.7
Project NetWork Participants' Knowledge About Waiver Rules: Baseline Survey

	Percent of Responses
All SSDI and SSI Beneficiaries, Recipients, and (SSI) Applicants	
Project NetWork volunteers can work for as long as they want without losing any of their disability or medical benefits.	
Agree/Strongly Agree	18%
Disagree/Strongly Disagree †	48
Don't Know/Refused	26
Not Aware of Project NetWork	9
All SSDI and SSI Beneficiaries, Recipients, and (SSI) Applicants	
The special waivers offered to Project NetWork volunteers don't really protect people from losing their disability or medical benefits.	
Agree/Strongly Agree	16
Disagree/Strongly Disagree †	37
Don't Know/Refused	38
Not Aware of Project NetWork	9
SSI Recipients and SSI Applicants not receiving SSDI	
People who volunteer for Project NetWork are allowed to work longer than people who don't volunteer for Project NetWork before they lose any of their benefits.	
Agree/Strongly Agree	35
Disagree/Strongly Disagree †	13
Don't Know/Refused	42
Not Aware of Project NetWork	10
SSDI Beneficiaries not receiving SSI	
People who volunteer for Project NetWork are allowed to work longer than people who don't volunteer for Project NetWork before they lose any of their benefits.	
Agree/Strongly Agree †	57
Disagree/Strongly Disagree	11
Don't Know/Refused	24
Not Aware of Project NetWork	8

	Percent of Responses
Concurrent Beneficiaries	
People who volunteer for Project NetWork are allowed to work longer than people who don't volunteer for Project NetWork before they lose any of their benefits.	
Agree/Strongly Agree	47
Disagree/Strongly Disagree †	14
Don't Know/Refused	31
Not Aware of Project NetWork	8
People who volunteer for Project NetWork can still lose some of their disability benefits if they work for two or more years.	
Agree/Strongly Agree †	56
Disagree/Strongly Disagree	8
Don't Know/Refused	27
Not Aware of Project NetWork	9

† Indicates response consistent with Project NetWork rules
Source: Baseline Survey

Exhibit 2.8
Project NetWork Participants' Knowledge About Waivers: Follow-up Survey

	Percent of Responses	
	SSDI[a]	SSI[b]
Does the amount a person works affect their ___ benefits?		
Yes	53%†	56%†
Depends on situation	5	2
No	25	13
Don't know/Refused	18	29
What happens to monthly ___ benefits when someone works (a lot)?		
No change	27	13
Stop/Get smaller	52 †	54 †
Get larger	0	0
Don't know/Refused	20	32
When does this change occur?		
No change is expected	27	13
Right away	12	21 †
After a while	35 †	26
Don't Know/Refused	27	40

[a] Responses include participants solicited as SSDI beneficiaries or SSI/SSDI beneficiaries.
[b]Responses include participants solicited as SSI applicants, SSI recipients, or SSI/SSDI beneficiaries.
†Indicates response consistent with Project NetWork rules
Source: Follow-up survey

volunteered for Project NetWork?" Given that such a small percentage understood that *any* change had occurred, we have not pursued their understanding of the details of these changes.

These results are supportive of the hypothesis that many Project NetWork participants did not understand the effects of the waivers, either at the time that they volunteered or several years later. They are not conclusive evidence of this hypothesis, however, because of the inherent limitations of survey data and possible ambiguities in the wording of the items.

2.5 Implementing the Waiver Provisions for Project NetWork Volunteers

Explaining the features of the waivers to potential participants was only one component of waiver implementation. Equally important were procedures established to ensure that the twelve month "hold harmless" provision of the waivers was implemented through the benefits administration process. As we discuss below, the system established for this purpose was not fail-safe in several respects.

Manual documentation of the existence of the waivers was done by case/referral managers, who were instructed to complete an orange waiver flag for all participants. These flags were transferred to SSA benefits administration staff to be placed in the claims and disability folders maintained by SSA's Office of Disability Operations. The flags were printed on heavy orange stock paper and contained a checklist of items indicating that special instructions applied to TWP actions, post-eligibility SGA actions, medical cessations, Continuing Disability Reviews (CDRs), and referrals to State VR Agencies. The client's name, social security number, claims number, date of participation in Project NetWork, TWP months completed as of the participation begin date, and the participation stop date were also to be recorded, and the case management unit's phone number and address were printed on the form.

The flags identified a case folder as belonging to a Project NetWork participant but did not explain the details of the waiver provisions that were in effect. The intent was that if claims representatives or other SSA staff encountered the orange flag, it would prompt them to investigate the case prior to terminating or suspending benefits.

The second procedure required entering information into SSA's automated benefits administration systems.[7] Codes were to be added to the Master Beneficiary Record (MBR) for SSDI beneficiaries and into the Supplemental Security Record (SSR) for SSI recipients. Three codes were to be entered into the MBR: a demonstration indicator field; a demonstration start date, indicating when project participation began; and a demonstration stop date, 36 months after participation began. These entries were made in "comment" fields of the data files. One entry was to be made on the SSR record, indicating participation in Project NetWork. Filling in this field on the SSR did not block suspension and/or termination actions but did identify the individual as being a participant in Project NetWork. There are several ways in which this entry might not have occurred as intended: if demonstration staff failed to report waiver eligibility to the claims unit that was responsible for making the entries; if the claims unit failed to make an entry into the data files; if an incorrect entry was made; or if a correct entry was later purged from the system.

7 These procedures are described in Section 1020 of the Case and Referral Management Operating Procedures (CMOP and RMOP).

In the MBR, the use of these fields was originally intended to block termination and suspension actions, making a manual review of the folder necessary. In practice, however, demonstration staff reported that the entries themselves did not prevent the initiation of benefit suspension or termination actions, but rather acted as intercepts for actions that would otherwise have occurred, requiring that individuals who would have carried out those actions check the comment fields before doing so. Given that the comment fields in the MBR would not automatically prevent benefit suspension or termination for demonstration participants subject to the waiver provisions, ensuring correct administration of the waivers would have required that all notices of benefit suspension or termination and SSI medical reviews be verified in the demonstration offices during the entire time period during which the waivers were in effect.

Since this level of verification was not conducted, it seems most likely that the waiver provisions would have been implemented only for those participants who came forward after the action the waiver was supposed to preclude had actually occurred. As a result, the overall effects of the waivers may rest primarily on the potential behavioral adjustments of participants who expect them to be carried out, not on their actual execution. In practice, only a small number of instances in which beneficiaries reported the waivers were not implemented as intended were ever reported to SSA's Central Office of Disability.

Another factor influencing implementation of the waivers is that the time period during which waivers could be in effect for participants, 24 months after random assignment, exceeded demonstration operations. As a result, actions contrary to the waiver provisions may have occurred after Project NetWork had concluded operations. For example, at the extreme, the final action to be taken based on the waivers could have occurred as late as 51 months after demonstration start-up, if (a) it applied to the last participant who volunteered, 15 months after demonstration start-up; (b) that individual waited the maximum of 24 months before beginning his/her twelve month waiver exemption; and (c) the action to be exempted/intercepted occurred in the last of those twelve months. Participants who had concerns or questions about their waiver status after the demonstration ended would not be able to discuss them directly with a case/referral manager. Effective implementation required that many staff at SSA, not only those directly involved in Project NetWork operations, be aware of the existence of the demonstration waivers. This factor was perhaps less of a concern in the Model 1 and 4 sites since they operated in SSA Field Offices. Many of the case/referral management staff went back to their previous positions in the same offices after Project NetWork was concluded. If a participant returned to the field office with a question or concern about their benefit status, it was fairly likely that a former case/referral manager might be in the office to assist her/him. In Models 2 and 3, the only SSA staff in the local Field Offices with experience in the demonstration were the claims representatives who conducted solicitation of new SSI applicants. It might have been more difficult for a participant in those sites to find someone in the local office familiar with the demonstration and waivers to respond to questions. SSDI/SSI recipients who moved outside the Project NetWork catchment area while still eligible for the waivers or contacted an SSA

teleservice center to inquire about benefit status would also be unable to speak to someone directly familiar with the demonstration.

We conclude that there were likely to have been problems in implementing the waiver provisions for Project NetWork participants.

2.6 Conclusions

Eligible individuals can be thought of as falling into three categories—those who:

A: Would not seek employment with or without a waiver.
B: Would seek employment even without a waiver.
C: Would not seek employment without a waiver, but would seek employment with a waiver.

We would expect the first group to be uninterested in the Project NetWork waivers, and not to volunteer. The second group would be interested in the demonstration, but the waivers have no effect on their work effort. Instead, the waivers represent a windfall gain for them. Only the third group would actually alter their behavior in response to the waiver offer.

This typology suggests that even if participants indicate interest in waivers, we cannot necessarily conclude that they increased their earnings in response. Most of the analysis presented in this chapter suggests that it is unlikely that the waivers led to an increase in employment and earnings.

We began this chapter with a statement of five factors that would contribute to the anticipated effects of waivers on participants' earnings. Below, we summarize our findings on each of these.

- Did potential participants understand that working could lead to reduction or termination of benefits? Only a minority of eligibles indicated that this was their understanding (41 percent for cash benefits, excluding individuals who were receiving SSDI only; 31 percent for medical benefits). Somewhat higher proportions of Project NetWork participants had this basic understanding, but still less than half.

- Were potential participants interested in working, but deterred by the prospect of losing benefits? About three-quarters of potential eligibles expressed interest in working, and around 60 percent said they would try to do so if they wouldn't lose benefits. About a quarter indicated, however, that they would turn down a job offer rather than lose cash or medical benefits. Project NetWork participants reported more interest in working than other eligibles, and were about equally likely to be deterred by the prospect of losing benefits. It is important to note that

multiple conditions need to apply for the waivers to have an effect and that, therefore, these figures represent upper bounds on the proportions who might be affected by the waivers.

- Did case/referral managers effectively communicate the waiver rules to potential participants? Although we do not have direct evidence on case/referral manager activity, the protocols for doing so were in place.

- Did potential and actual participants understand the waiver provisions? The great majority of eligibles reported never having heard of Project NetWork, despite having recently been solicited to participate in the demonstration. Project NetWork participants exhibited substantial confusion about work incentives under the waivers, both at baseline and two to three years later.

- Were the waiver provisions administered effectively? Although direct evidence is not available, it seems unlikely that they were.

On the basis of this analysis, it therefore seems unlikely that the waivers could have a great impact on the behavior of demonstration participants. Although participants professed a strong desire to work, many participants would work even without the waivers. Responses to the baseline and follow-up surveys indicate that most participants did not understand the regular rules regarding work and benefits or the advantages of the Project NetWork waivers. It therefore appears doubtful that the waivers themselves could be expected to affect their work decisions.

The regular SSA work incentives, even absent the special waivers offered by Project NetWork, are difficult to understand, and it is unrealistic to expect that potential participants—many of whom have cognitive impairments—can do so. Furthermore, even with an understanding of these rules one would be far from able to calculate the total effect on income of returning to work. A substantial fraction of eligibles (37 percent) reported receiving food stamps, which dampen the effects of the waivers.[8] Other means-tested benefits such as housing subsidies would also be reduced by work. On the other hand, the Earned Income Tax Credit (EITC) could increase the gains from working. These programs interact with each other as well; food stamp benefits depend on the amount paid for housing and also take account of the EITC. It would be quite surprising if potential participants knew whether they would end up with more or less disposable income if they took a low- or moderate-paying job.

8 An additional $100 per month in earnings, if SSI and SSDI benefits were unchanged due to waivers, would lead to a reduction in monthly food stamp benefits of $24. If SSI and SSDI benefits declined at the same time, food stamp benefits might increase (because 100 percent of unearned income but only 80 percent of earned income is counted).

Chapter Three
Analytic Challenges

In this chapter we describe some of the difficulties of estimating the impacts of the waivers on earnings and disability benefits. We begin with a description of the data sources available for the analysis. We then discuss challenges of the analysis and the implications of these challenges for the analytic approach. The chosen methodology itself is described in Chapter Four.

3.1 Data Sources

Our analysis of waiver effects uses SSA administrative records from the MBR, SSR, and MEF source files, as described below. These records provide information on SSI and SSDI benefit receipt, earnings for predefined groups of individuals, and key characteristics of recipients and beneficiaries.

3.1.1 SSI and SSDI Benefit Receipt

Data on disability benefits receipt, taken from the MBR810/811 file for SSDI beneficiaries and from the SSR831 file for SSI recipients, are available on a monthly basis, providing an essentially complete benefit history during the predemonstration period, as well as for the postdemonstration period up until the time of data extraction.[1] The SSR831 was used to obtain individual level data on monthly receipt of SSI benefits, covering the period January 1990 through December 1996. Each month, information is available on the payment status, earned and unearned income used in the calculation of SSI benefits, and the federal and state SSI supplementation amounts. The SSI analysis file also contains the total number of months of eligibility for SSI benefits prior to January 1990. For SSDI beneficiaries, monthly receipt of benefits was collected from the MBR810/811 for the period January 1990 through December 1997, including the benefit status code and the dollar value of benefits for each month. The SSDI analysis file also contains the date of first month of eligibility for SSDI benefits, the total number of months of payment eligibility prior to January 1990, and the date of conversion to the SSA Old Age program or death.

3.1.2 Grouped Earnings

SSA administrative records also provided information on SSA covered earnings. The Master Earnings File (MEF), which contains annual (calendar year) SSA-covered earnings reported by employers, is the source of these data. To protect confidentiality, SSA provided mean annual earnings for groups of 10 to 19 individuals.

[1] See Fu Associates, Ltd (1998a and 1998b) for more details on the creation of the SSI and SSDI benefits analysis files.

Abt Associates placed 146,861 eligible individuals into 14,486 groups of 10 to19 persons. The groups were formed by dividing the sample into progressively smaller groups, using the following hierarchy of characteristics:

- Treatment group (3 categories: treatments, controls, nonvolunteers)
- Demonstration site (8 sites)
- Planned waiver analysis groups, discussed below (5 groups)
- Young SSI recipient (2 categories: SSI recipients age 30 years or under, and all others)
- Type of benefits received at the solicitation date (4 categories: SSI applicant, SSI recipient; SSDI beneficiary; and concurrent beneficiary)
- Follow-up survey respondent (2 categories: survey respondent and all others).

We were able to form groups that were entirely homogeneous with respect to treatment status, site, and waiver analysis group membership. Beyond this point, we sometimes had to combine persons with different grouping characteristics because of insufficient sample size. For example, some SSI recipients and SSDI beneficiaries had to be grouped together. As we moved down the hierarchy listed above, the groups became progressively less homogeneous with respect to the grouping characteristics.

For each of the predefined groups, SSA provided mean earnings for calendar years 1990 through 1996, and standard deviations of mean earnings for each of these years. To further protect confidentiality, SSA left missing any means or standard deviations which were less than $200.

3.1.3 Characteristics of Recipients and Beneficiaries

SSA administrative records (the MBR831, MBR810/811, and SSR831 source files) were also used in the derivation of the universe of eligible individuals solicited for the demonstration and to collect information on primary impairment and basic demographic information. The demographic variables collected from SSA administrative data include gender, race, age, permanent disability code, and primary impairment.

3.2 Challenges of the Analysis

Determining the impact of waivers on the earnings and disability benefits of beneficiaries, recipients, and applicants presented five challenges. As described below, each one imposes serious limitations on the analysis.

3.2.1 Challenge #1: Determining the counterfactual

Our intervention group is Project NetWork control group members. Treatment group members, who received services as well as waivers, are excluded from the waiver analysis to avoid confounding the effects of the two components. Our first challenge, then, is to determine an appropriate counterfactual to the actual earnings and benefit receipt of the control group members—that is, some way to estimate what these individuals would have earned and received in the absence of waivers. This task is complicated by the design of Project NetWork.

A key feature of the design of Project NetWork was that random assignment was used exclusively to allocate project services, and that *all* volunteers received waivers. Furthermore, while ongoing recipients and beneficiaries were recruited in quarterly cohorts, all new SSI applicants were solicited at the time of application. Consequently, while there was some variation among ongoing cases in their exposure to Project NetWork during the year of intake, all new SSI applicants had waivers available to them for the entire time.

3.2.2 Challenge #2: Calendar year earnings data

The nature of the earnings data compounds the problem in several ways. The first of these is that the data correspond to income covered by Social Security in a given *calendar year*. To examine the effects of waivers we would like to examine individuals' earnings in a follow-up period that begins with their solicitation (or perhaps with random assignment). But an individual could become disabled, apply for SSI, be solicited for Project NetWork, and volunteer, all in a single year. The earnings measure for that year would then represent a mingling of three streams: high predisability earnings; much lower earnings under the standard disability incentives; and post-waiver earnings. We have no way of knowing how much of the total accrued in each of these phases. This problem was exacerbated by the fact that several of the available analytic options only allowed a very short follow-up period.

3.2.3 Challenge #3: Grouped earnings data

For reasons of confidentiality, earnings data were not available for individuals, but only as group means for predefined groups of at least 10 individuals ("earnings groups"). Although we were able to define the groups at our option, we were unable to achieve the homogeneity needed for this analysis for two reasons. First, sample size posed a natural limit to how finely we could divide the data. Second, the fact that the data were to be used for multiple analyses forced tradeoffs and compromises that precluded the grouping that would have been optimal for any one analysis. It was deemed essential to keep the groups homogeneous, or nearly so, with respect to treatment status, site, beneficiary type, young SSI status, and a waiver analysis group variable (discussed below). Consequently, much less homogeneity was obtained with regard to a variable that was also important for the analysis, the calendar period in which individuals were solicited. In this dimension, individuals were grouped approximately by an indicator of whether they were solicited in the latter half of 1992, the first half of 1993, the second half of 1993, or the first half of 1994.

The aggregation of data into earnings groups compounds the difficulties caused by calendar year data, as may be seen by the following example. Suppose there are two earnings groups, A and B, perfectly sorted so that *no one* in A was exposed to the waivers at all in 1993, and *everyone* in B was totally exposed to the waivers throughout 1993. Looking at only three years of data, the waiver variable for the groups by year would be as shown below:

	A	B
1992	0	0
1993	0	1
1994	1	1

We could then estimate the waiver effect based on the two available "double difference" comparisons: (A94– A93)–(B94–B93), and (B93–B92)–(A93–A92), where A94 is the earnings of Group A in 1994, etc.

Now suppose that we had grouped the same individuals by intermingling them completely with regard to their exposure to waivers in 1993, to form Groups C and D—the worst case scenario. The waiver variable would then be:

	C	D
1992	0	0
1993	.5	.5
1994	1	1

A "double difference" approach could give us *no* estimate of the waiver effect, because there is no independent variation of waiver, calendar year, and individual.

In an intermediate scenario, we might have:

	E	F
1992	0	0
1993	.25	.75
1994	1	1

Here we have some power to estimate the waiver effect, but not as much as in the completely homogeneous case. Each double difference gives us only half of the waiver effect, i.e. less information.

Adding more individuals and more years of data to this example would give us additional statistical power, protecting us from the danger that groups "E" and "F" had unusually high or low earnings in 1992 and 1994. But the pivot of the estimate is still 1993, the year in which some groups had more waiver exposure and others had less.

Because the earnings data represent calendar years, even if the groups were perfectly homogeneous with respect to solicitation date (which they are not), we still would not have perfect separation, as in the "A" and "B" example. Less than 5 percent of solicitations and only 8 percent of random assignments occurred in January. Hence post-solicitation months comprise only a fraction of the year for nearly everyone.

3.2.4 Challenge #4: Missing earnings data

In the interest of preserving confidentiality, groups in which mean earnings were less than $200 were coded as missing. Consequently, it was not possible to study the correlates of a more tractable and central outcome measure, the presence of any earnings *versus* none. For purposes of the analysis, we imputed means of $200 to these observations.

3.2.5 Challenge #5: Sample truncation

The previous three challenges were specific to the earnings data, and are not an issue for analyzing receipt of SSI and SSDI benefits. It might therefore be supposed that we are in a better situation for analyzing these outcomes, because monthly data are available on benefits for each individual. When examining disability benefits we can define the follow-up period as desired, and can freely link benefits to individual characteristics.

Nonetheless, the situation for analyzing disability benefits is worse than that for earnings. The reason is that while we have all the data desired on each sample member, the analysis sample excludes a key group of individuals: former disability recipients who were not solicited because they had left the rolls. As will be discussed in the next section of this chapter, this characteristic of the data drives us to the unsatisfactory alternative of using nonvolunteers as a comparison group for Project NetWork volunteers in our analysis of benefit receipt.

We note that even if data had been available on individuals who left the rolls before solicitation, the analysis of impacts on benefit receipt would not have been straightforward, because we would not have known which of those individuals would have volunteered for Project NetWork if they had been offered that opportunity in the past. Nonetheless, these data would have been useful in developing bounding estimates.

3.3 Implications for the Chosen Methodology

The results that are presented in Chapter Five use approaches that are, in our view, the best solution to the aforementioned challenges. To help the reader assess the selected approach, we describe below our rationale for choosing among several alternative approaches.

3.3.1 Implication #1: Drawing comparison groups from future volunteers will reduce (but not eliminate) selection bias

The individuals who volunteered for Project NetWork and received waivers were a small subset of the eligible population. Only 4.5 percent of those solicited by mail or in person volunteered (Burstein, Roberts, and Wood, 1999). Drawing a comparison group from the 95.5 percent of those solicited who did not volunteer risks selection bias unless we can model the decision to volunteer. Although detailed and rich data were collected in the baseline survey on all aspects of eligible individuals' situations, these data still do not enable us to distinguish very well between those who do and do not volunteer. For example, the likelihood of participation was more than twice as high among those with no ADL disabilities as among those with severe ADL disabilities; nearly twice as high among those with no IADL disabilities as among those with severe IADL disabilities; more than four times as high among those that had worked at least 30 hours per week in a job in the past 12 months as among those who had never worked; and nearly five times as high among those that said they could work as among those who said they could not. Nonetheless, even among the small fraction of the population that met all four of these favorable criteria the participation rate was only 12 percent. While these factors may predispose individuals to volunteer, they are very far from ensuring that an individual will do so.

We infer that there are powerful unobserved influences at work. These influences evidently cause the great majority of eligibles to decline the waiver offer, even among those who declare they are able to work, have worked at least 30 hours per week in a job in the past year and have no ADL or IADL disabilities. Furthermore, a small percentage of individuals who would be judged totally unable to achieve gainful employment based on these measures also volunteered. Unmeasured influences may include the individual's temperament, supportiveness of family members, personal connections with potential employers, compatibility with local office staff, and so on. It is probable that nothing short of a case study approach would enable us to understand why specific individuals did or did not volunteer. It would be naive to suppose that these qualitative influences that have such an important effect on whether individuals volunteer could not also affect individuals' outcomes in the absence of the waiver offer. An attribution of observed differences in outcomes between those who did and did not volunteer to the waivers themselves, rather than to the unobserved variables, would be hard to accept. This suggests that the comparison group needs to be drawn from among individuals who *at some later time* were solicited for and volunteered for Project NetWork, and who therefore have in common with the intervention group whatever factors led them to volunteer.

Drawing the comparison group from future Project NetWork volunteers is not a totally satisfactory solution to selection bias for two reasons. First, it implicitly assumes that the selection problem inheres in the individuals—that some solicitees have "it" (whatever "it" is) and others do not. A troubling aspect of the demonstration in this regard is the substantial time elapsed between solicitation and the time when individuals volunteered and were randomly assigned, six months on average. This suggests that the condition of having "it" fluctuates over

time. If so, individuals who at some point after solicitation volunteered for Project NetWork might not have volunteered at all in a previous year—and their earnings in that previous year therefore might not provide a good counterfactual. Second, the comparison group cannot include individuals who left the disability rolls for work or for other reasons prior to solicitation. The net effect of this exclusion is unclear. Estimated waiver impacts on earnings would be biased upward by the exclusion from the comparison group of individuals that left the rolls in order to return to the labor force, but biased downward by the exclusion from the comparison group of exiters with zero earnings. The direction of the bias depends on whether the earnings of all exiters, including zeros for those who died, etc., are higher on average than the earnings for all stayers. Among SSDI beneficiaries, most exits prior to retirement age are due to death.[2] Among SSI recipients, important exit reasons are death and changes in means-tested eligibility unrelated to work.[3]

Econometric methods do exist for correcting for selection bias. They require the identification of one or more instrumental variables that affect the likelihood of volunteering but do not affect outcomes (such as employment) other than through the altered likelihood of volunteering. With such instruments, one could use data for nonvolunteers, comparing outcomes based on the *predicted* rather than the *actual* decision to participate. We have been unable to identify any such variables, however, among the limited data available for both participants and nonparticipants, described in Section 3.1.3 above. If such an instrument could be found, this approach would be well worth pursuing.

3.3.2 Implication #2: Despite the danger of selection bias, comparison groups should be drawn from nonvolunteers for analyzing SSI and SSDI benefits, because of sample truncation

The arguments given in the previous section convinced us to use a comparison group composed of future volunteers for the earnings analysis. For the analysis of impacts on receipt of SSDI and SSI benefits however, we have used a nonvolunteer comparison group, because in that case the difficulties associated with sample truncation outweighed those associated with selection bias.

The broadest possible analysis sample for this study that is available to us is *individuals who were solicited to enroll in Project NetWork at the time of sample intake*. Consequently, any comparison group that we define is necessarily composed of individuals who were actively receiving benefits when solicited. Suppose we wish to analyze the impact of waivers on benefit

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[2] Rupp and Scott (1998) reported, for example, that "more than half of first DI disability spells end with retirement, more than a third are terminated due to death, and only 11 percent recover" (p. 142).

[3] In comparing exit reasons for SSI recipients and SSDI beneficiaries, Rupp and Scott (*op. cit.)* note that because "SSI is means tested[,] SSI recipients might lose payment eligibility as a result of changes in their family income or assets ... DI beneficiaries are more at risk of losing payment eligibility for work-related reasons" (p. 151).

receipt in a follow-up period that begins with beneficiaries' solicitation. If we take a comparison group from the past—say, the year before solicitation—then we have chosen a group which *by definition* is receiving disability benefits in both the first month and the last month of its follow-up period. Almost all such individuals receive benefits in every intervening month as well. Hence we are comparing benefit receipt by the intervention group against virtually 100 percent receipt. A true comparison group would include individuals who were receiving disability benefits in the first month of their follow-up period and then left the rolls, because they died, because they found employment, or for some other reason. But all of these individuals are excluded from our analysis sample, because they were not on the rolls to be solicited at the time solicitation occurred.

This closes off the option of taking a comparison group from the past for analyzing impacts on disability benefits. We must therefore use a contemporaneous comparison group composed of nonvolunteers if we are to analyze these outcomes at all, despite the likelihood of selection bias. While we are aware that the same problem of sample truncation arises in our construction of a comparison group in the analysis of the impacts of waivers on earnings, we have concluded that use of future volunteers is the lesser evil in that situation, because the sample is not truncated directly on the outcome being analyzed.

3.3.3 Implication #3: Future volunteers should be used as a comparison group for new SSI applicants when analyzing earnings

It seems essential that the comparison group for SSI applicants should also be persons applying for SSI, i.e. individuals at the same stage of their trajectory with regard to disability, disability benefits, and perhaps recovery. It will be recalled, however, that *all* individuals applying for SSI during the project intake period were solicited. Given our strong wish to avoid using nonvolunteers as a comparison group, our comparison group is individuals applying for SSI in an earlier year, who then were subsequently solicited for Project NetWork (typically as ongoing SSI cases) and volunteered. We compare their earnings *starting from their SSI application in an earlier year* to the earnings of the new SSI applicants *starting from their SSI application in a later year*. These two groups comprise two of the aforementioned "waiver analysis groups" that were grouped together when earnings groups were constructed. Our approach is therefore neither pre-post nor contemporaneous intervention-comparison; we compare one group of recipients (new SSI applicants who volunteered) with their presumed doppelgängers in a previous time.[4]

This comparison of these two groups holds constant what we judge to be the two most important factors:

[4] A doppelgänger is a ghostly double, or counterpart. This seems an appropriate term to use for an individual whose experience in the past is deemed to reflect what the waiver recipient would have experienced in the future in an alternate reality in which the waiver had not been made available (i.e., the counterfactual).

- Both the intervention group and the comparison group are SSI applicants at the beginning of their respective follow-up periods.

- Both the intervention group and the comparison group comprise individuals who did volunteer for Project NetWork when solicited.

The comparison is unsatisfactory, however, in several ways:

- The calendar periods for the intervention and comparison groups are different. We may therefore falsely attribute effects that are due to the overall improvement in the economy between the early 1990's and the mid 1990's to the effects of waivers. We cannot simultaneously measure calendar year effects and changes in the policy régime (the waiver offer for the later applicants).

- The great majority (65 percent) of new SSI applicants in Project NetWork subsequently received *no* SSI benefits in the 30 months that followed. These individuals are included in the intervention group. On the comparison group side, in contrast, SSI applicants who were rejected for benefits drop out of the data base, as do those who were approved for benefits but exited the rolls prior to solicitation.

- Our statistical power is limited by the small samples and short follow-up period. There are only 84 earnings groups composed of new SSI applicants and 80 groups composed of earlier SSI applicants who later volunteered. Furthermore we need to end the follow-up period for the comparison cohort when they are solicited for Project NetWork (1992 or 1993).

3.3.4 Implication #4: We cannot use a contemporaneous comparison group approach for analyzing earnings of ongoing recipients and beneficiaries

An approach that initially was extremely attractive but was ultimately rejected was to use the *last* cohort of Project NetWork mail solicitees as a contemporaneous comparison group for control group members in the *first* cohort of mail solicitees. These comprised the third and fourth of the aforementioned waiver analysis groups for which grouped earnings data were obtained. (The fifth waiver analysis group consisted of those not in any of the other four.)

In the abstract, this approach had many attractive features. Both cohorts consisted exclusively of Project NetWork volunteers. The last cohort was solicited exactly 12 months after the first cohort in each site (except in Phoenix/Las Vegas, where the desired sample size was attained early, and the final cohort of ongoing recipients and beneficiaries was not solicited.) Hence, in each site there was a 12-month period of post-solicitation data for Cohort 1 exactly coinciding with a 12-month period of pre-solicitation data for Cohort 5. Furthermore, because the cohorts

were solicited according to Social Security Number, it could be assumed that the groups were as comparable as if they had been randomly assigned.

Further consideration indicated that the groups were not totally comparable, for several reasons. First, enthusiastic individuals in Cohort 5 could self-refer and enter the demonstration before they were scheduled to be solicited. These individuals would have to be dropped from the comparison group (because they would not have a full year of presolicitation data uncontaminated by the waivers). Their counterparts in Cohort 1 would be unidentifiable and therefore included in the sample. Second, membership in Cohort 5 was defined based on disability receipt *in the month prior to solicitation*. Some individuals in that cohort had entered the disability rolls *during* the 12 months preceding solicitation. These persons should clearly be dropped from the analysis, as they were not comparable with the Cohort 1 individuals who were all on the caseload at the beginning of the follow-up period. But conversely, there were no doubt some individuals who would have been solicited as part of Cohort 5, except for the fact that they had left the disability rolls during the preceding 12 months, due to death, labor market entry, or some other reason. As discussed above, these exiters are totally invisible to us; because they were not recruited for Project NetWork, we have no information on them. This "comparison group", then, definitionally excludes all those who died, earned their way off the disability rolls, or stopped receiving benefits for some other reason during the follow-up period, whereas the intervention group includes such people.

Another problem with this approach was the small sample sizes and the short follow-up period. Only 36 earnings groups consisted of Cohort 1 control group members, and only 58 consisted of Cohort 5 volunteers. Furthermore, the approach could compare the groups only for the 12 months after solicitation (after which the Cohort 5 individuals were themselves receiving the intervention.)

Still another difficulty was that in one of the sites (Phoenix/Las Vegas) project intake concluded early, so that there was no fifth cohort. This site would have to be excluded from the analysis.

The final blow to this approach, however, was the calendar year nature of the earnings data. The contemporaneous comparison group approach requires us to compare earnings for a 12-month period that started with solicitation. In two of the sites, Dallas and Fort Worth, the first cohort was solicited in June 1992 and the fifth cohort in June 1993. For Cohort 5, therefore, earnings in 1993 included six months of pre-waiver data and six months of post-waiver data. The calendar year data could thus not be divided into pre- and post-waiver observations. A similar situation, although less severe, obtains in the other sites.

We therefore rejected this approach, in favor of a fixed effects model described below. The chosen approach capitalizes on the primary strength of the earnings data, which is their availability for 7 years (1990 through 1996).

3.3.5 Summary of implications

The challenges described earlier in this chapter imposed serious limitations on the analyses that could be done. Furthermore, the relative dangers of the various biases seem more severe for some research questions than for others. This suggests that a uniform analytic approach is not appropriate. In the following chapter we describe our chosen approach for each research question. Given the numerous difficulties and caveats described in this chapter, and the resulting limitations of the chosen methodologies, our approach may best be viewed as an exploratory analysis.

Chapter Four
Analytic Approach

In the preceding chapter we described the special challenges posed by the structure of the Project NetWork demonstration, along with the use of calendar year earnings data for predefined groups and a truncated sample in a nonexperimental setting. We now describe our selected approaches for estimating impacts using these data. As will be seen, our approach varies markedly by outcome type (earnings *versus* disability benefits) and by beneficiary type (ongoing *versus* new SSI applicants), as a result of the relative weights we give to potential biases in these different situations. We begin the chapter with a discussion of how the waiver intervention should be specified, and next present some illuminating data on temporal patterns of earnings for various groups of eligible individuals. We then explain the quantitative methods used in this report to estimate waiver impacts on ongoing recipients' earnings, on new SSI applicants' earnings, and on SSI and SSDI benefits received.

4.1 Specification of the Intervention

The impact of waivers could alternatively be thought of as commencing with the waiver *offer* (solicitation) or the waiver *acceptance* (random assignment). The argument in favor of using waiver acceptance is that the varying span elapsed between the offer and the acceptance represented a time during which nothing was happening. If we included this period in our waiver measure, we would be diluting the estimated effect.

The counterargument, which we find more persuasive, is that the interim period between the offer and the acceptance could be controlled by the participants. We presume that a significant proportion of individuals who were solicited and attracted by the opportunity did not have any immediate prospects for entering the labor market. They might therefore delay acceptance of the waiver until a time when all the necessary conditions were met for them to take advantage of it (family support, good health, appropriate opportunity). The interim period therefore was an endogenously determined spell of little or no employment—and therefore not typical of the pre-solicitation period for these participants. This interpretation was supported by analyses of earnings in which effects during the interim period were estimated separately from effects post-random assignment. The effects in the interim period were strongly negative. We concluded that the correct measure of the effects of waivers would encompass the entire period from when clients were solicited.

4.2 Temporal Patterns in the Earnings Data

In assessing alternative analytic approaches to estimating impacts, it is helpful to examine earnings patterns for the disability population. Consideration of these patterns provides useful guidance in specifying a model of the impact of waivers.

Grouped earnings data for the years 1990 through 1996 were available for all Project NetWork solicitees—that is, individuals applying for or receiving disability benefits during the 15-month intake period. Intake began in mid-1992 in two sites and in early 1993 in the others. Earnings levels vary markedly by beneficiary type (which is defined at time of solicitation). Exhibit 4.1 shows these levels for 1993. We find that SSI applicants have the highest earnings, and that the earnings of concurrent beneficiaries are much lower, comparable to those of SSI recipients. It must be recognized, of course, that these values may include some predisability earnings for SSI applicants, some waiver effects for volunteers, and some Project NetWork service effects for treatment group members. This chart suggests, at least, that SSI applicants are substantially different from ongoing SSI recipients; and that concurrent beneficiaries should be grouped with SSI recipients, rather than with SSDI beneficiaries, when they cannot be analyzed separately.

We also find that earnings for nonvolunteers are no lower in 1992 and 1993 than those of volunteers (Exhibit 4.2). While one might have expected that the volunteers were substantially more invested in the labor market around the time of solicitation, this does not seem to be the case.

A striking feature of the data is the U-shaped trajectory of group earnings for all of the groups (Exhibit 4.3). It might be supposed that once individuals became disabled and started receiving disability benefits, their earnings stabilized near zero. But this is clearly not the case. The decline during the earlier years undoubtedly reflects the falling proportion of the sample that was in their predisability phase. The upturn shows a tendency for both volunteers and nonvolunteers to climb out of the trough, with or without the Project NetWork waivers. This could potentially be due to a variety of factors for different segments of the population eligible for waivers, including effects of Project NetWork services for treatment group members; effects of waivers for both treatment and control group members; and effects of standard work incentive provisions for nonvolunteers. Among new SSI applicants additional factors may also come into play. People applying for disability benefits face strong incentives not to work until their applications are processed, and are probably at the low point of their ability to work at the point of application. Hence they may increase their work effort in subsequent years. Finally, a substantial proportion of new SSI applicants eligible for Project NetWork never received disability benefits, and thus would be expected to work more in the years following their application.

Exhibit 4.1
Mean Earnings by Beneficiary Type, 1993

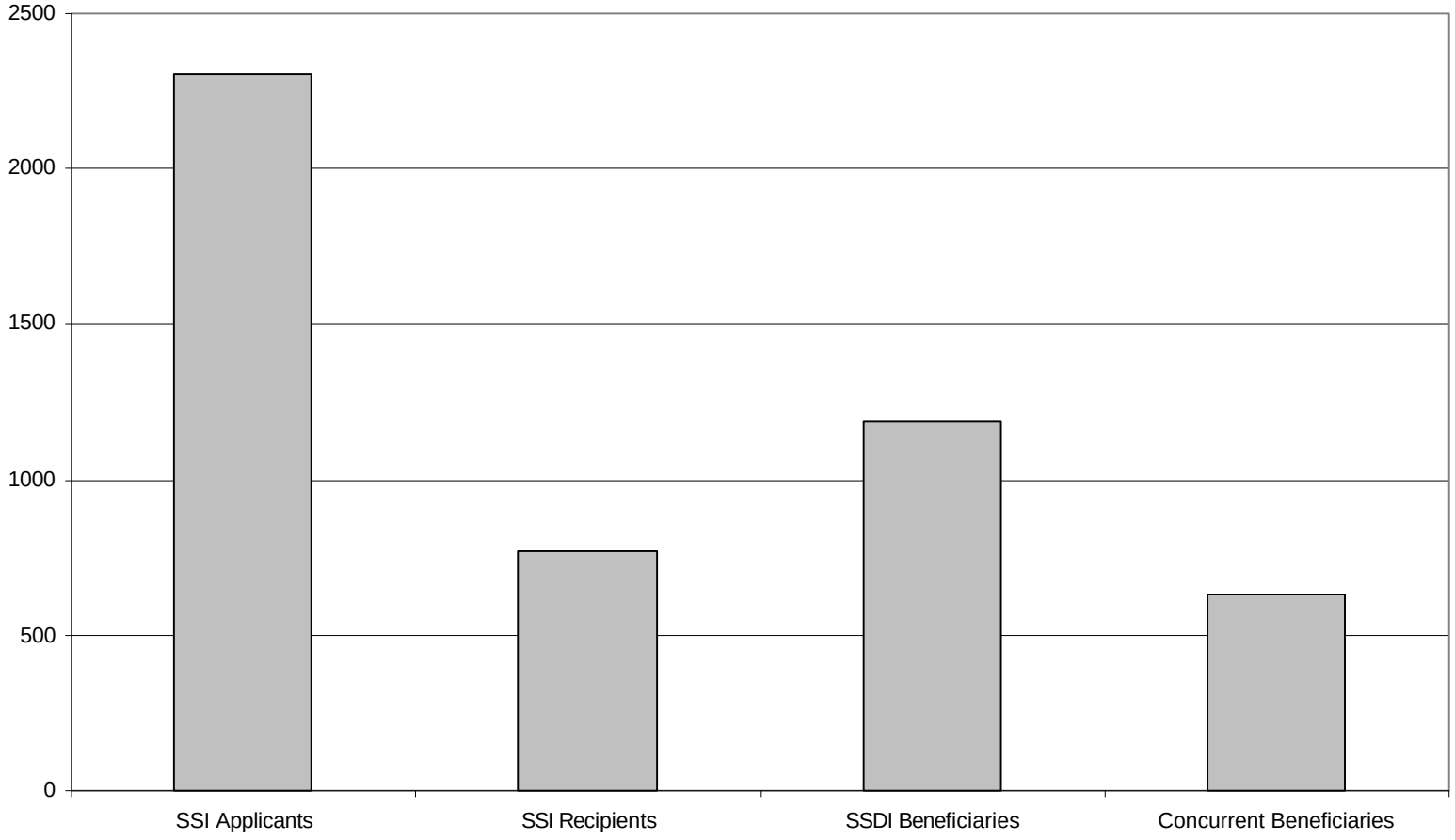


Exhibit 4.2
Mean Earnings by Project NetWork Status, 1992 and 1993

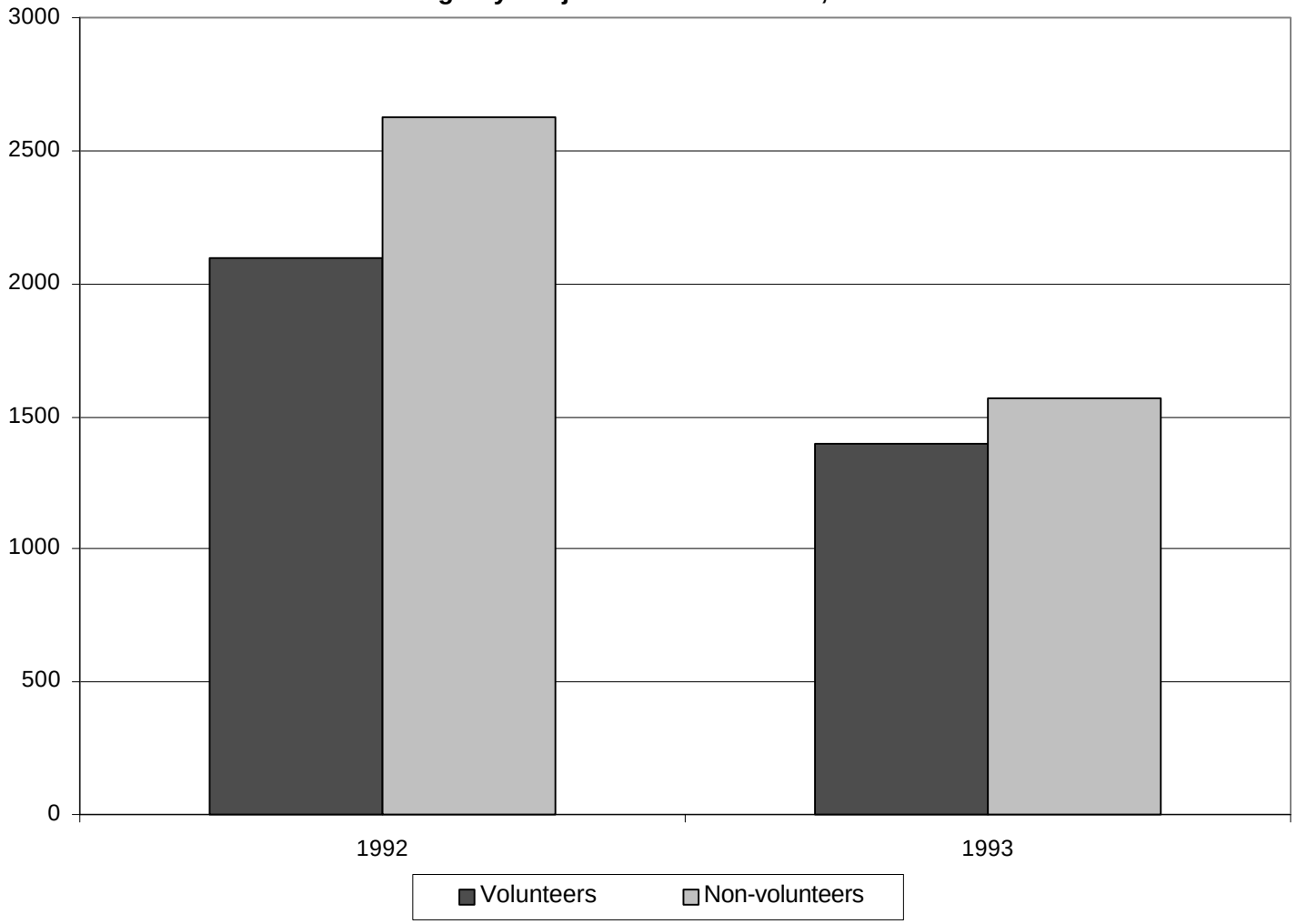
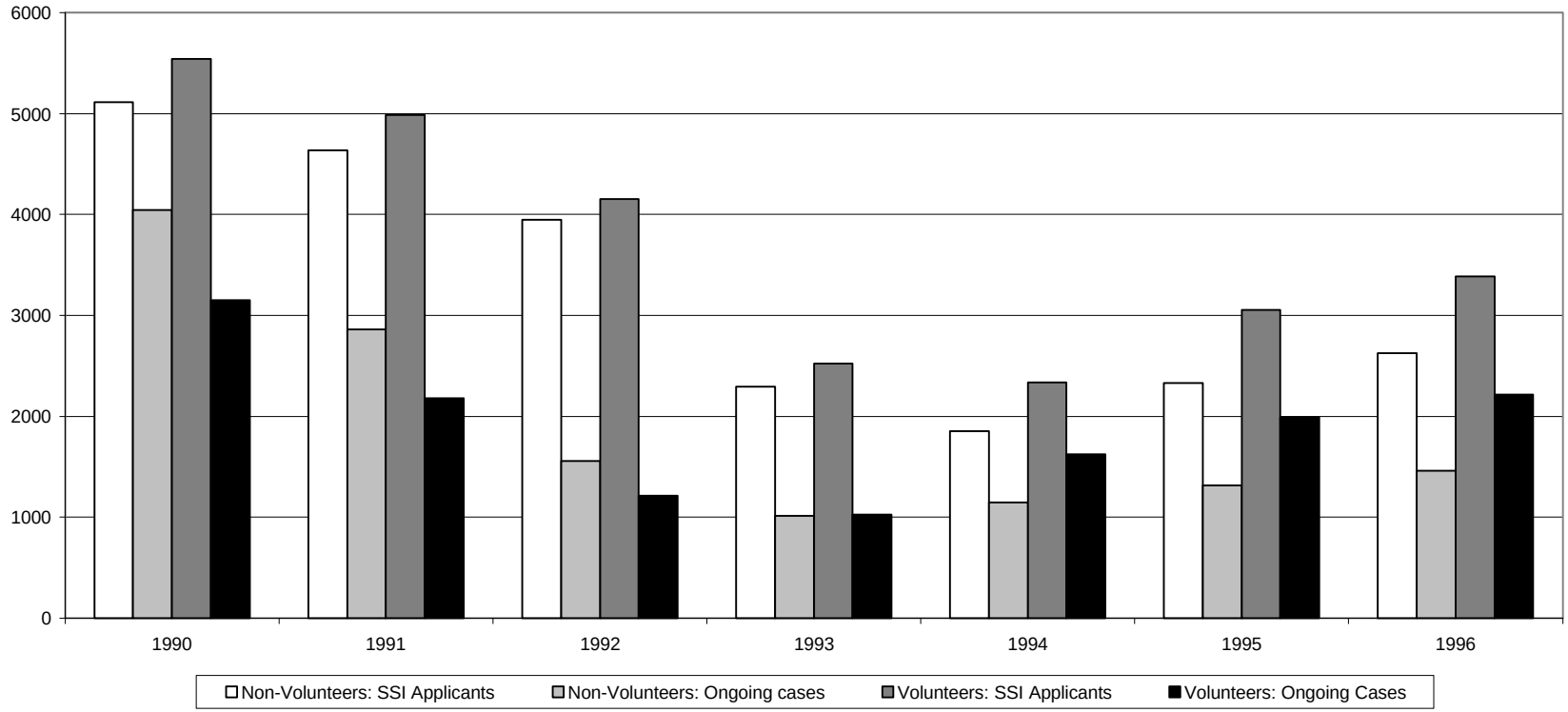


Exhibit 4.3
Mean Earnings by Project NetWork Status and Disability Status at Solicitation, 1990-1996



4.3 Earnings Impacts: Fixed Effects Model for Ongoing Recipients and Beneficiaries

Our chosen approach for estimating waiver effects on earnings for ongoing recipients and beneficiaries is a *fixed effects* model, combining data from all groups and all years in the same regression. The essence of this approach is the (implicit or explicit) inclusion in the model of indicator variables for *each individual* (or, in our case, earnings group) and for *each calendar year*.[1] The coefficients of these indicator variables are referred to as the individual and year "fixed effects." The importance of the *individual* fixed effects is that they capture differences in outcomes among persons that persist over time, due to such hard-to-measure factors as ability or motivation. At the same time, they capture any other time-invariant differences, such as race and sex. Fixed effects models do not, however, correct for *time-varying* differences across individual, which in some cases can be crucial for the comparability of the intervention and comparison groups. The *year* fixed effects capture differences over time that affect both the intervention and the comparison group, such as changes in the economy. Thus several potentially important sources of bias are eliminated.

The numerical values of the fixed effects are not of interest in themselves. Consequently, when the number of individuals or groups is large, as in this analysis, the data are typically transformed into deviations form. To do this, the data are grouped by individual (or earnings group, in our case); means are taken of each variable by earnings group across all the time periods; and these means are subtracted from each observation. Because the individual fixed effects are constant over time for each earnings group, they fall out of the model, greatly reducing the number of coefficients to be estimated. Then OLS is run on the transformed model and the year indicator variables. This approach yields arithmetically identical coefficient estimates to those obtained when the group indicators are included in an OLS regression on the original (that is, untransformed) data.[2]

The approach described above implicitly assumes that residuals are uncorrelated across time (within groups) and homoskedastic across groups. We also estimated a fixed-effects model that adjusted for first-order autocorrelation within groups, and computed standard errors that are robust to heteroskedasticity across groups.[3] This model gave results that were very similar to the basic fixed-effects model, so Chapter Five reports results only for the basic model.

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1 It is necessary to omit one earnings group and one year indicator to avoid perfect collinearity.

2 However, an OLS regression on transformed data would generate estimated standard errors that are too small, because it would not take into account the degrees of freedom used up in constructing the group means. The statistical software used for this analysis, called Stata, has a fixed-effects command that automatically makes this degrees-of-freedom adjustment to the standard errors. For more details, see StataCorp 1997, XTREG command, pp. 631-647.

3 See StataCorp 1997, XTGEE command, pp. 596-615.

To specify the model, we hypothesize that the earnings of an individual in a calendar year depend on:

- fraction of the year (if any) that is predisability;
- the individual's typical postdisability earnings;
- time elapsed since the individual began receiving disability benefits;
- variations associated with the calendar year (e.g., economic opportunities);
- beneficiary type (SSI *versus* SSDI); and
- the waiver offer (i.e., having been solicited for Project NetWork).

Covariates that we could potentially have included in the earnings model are those that are found in SSA administrative records (gender, race, age, and primary impairment) and in the CMCS (education and marital status). Time-invariant characteristics of individuals such as race and gender are captured in the individual fixed effects and therefore drop out of the model. Other personal characteristics (such as marital status, primary impairment, and education) that are nearly time invariant are also excluded from the model; changes in these measures are rare and could contribute only trivial explanatory power.[4]

Several other person-level determinants of earnings do change with the passage of time. We have ignored age, on the grounds that approximate age (e.g, the difference between being in one's 20's rather than in one's 50's) would be taken account of in the individual-level fixed effects, and that individual's increases in age over the time span that we were examining were of lesser importance. The potential importance of time elapsed since entering the disability rolls, however, is suggested by the U-shaped earnings patterns discussed previously, and this factor is therefore included.

For *individuals*, our basic model of earnings is:

$$EARNINGS_{i,t} = A_i + B_t + C\ WAIVER_{i,t} + D\ PREDIS_{i,t} + E\ ONDIS_{i,t} + u_{i,t},$$

where $EARNINGS_{i,t}$ = earnings of individual *I* in calendar year *t*;
A_i = expected or typical earnings for individual *I* (the individual fixed effect);
B_t = perturbation associated with calendar year *t* (the year fixed effect);
$WAIVER_{i,t}$ = fraction of the year following individual *I*'s solicitation;
$PREDIS_{i,t}$ = fraction of the year predating individual *I*'s receipt of SSI/SSDI benefits;
$ONDIS_{i,t}$ = number of years of receipt of SSI/SSDI benefits to date;
C, D, E = parameters to be estimated; and
$u_{i,t}$ = unexplained residual.

[4] Furthermore, we note that information on the variables from the CMCS (education and marital status) is available to us only at a single point, around the time of random assignment.

That is, we suppose that earnings for an individual in a given year depends on calendar year effects, assumed to be the same for everyone; the fraction of the year (if any) that was predisability; the number of years (if any) since disability benefits began[5]; and the fraction of the year in which a waiver was available. This equation is intended to apply to individuals who were receiving SSI/SSDI during intake in their site, and who volunteered when solicited. If they were randomly assigned to the treatment group, this equation does not apply to years in which they received Project NetWork *services*— although their earlier years provide information that could improve the estimates of the B_t's, which in turn could improve the estimates of other coefficients.

For the practical estimation of waiver effects, we generalized this basic model in two ways. First, we interacted both the WAIVER indicator and the fixed year effects with each of eight site indicators, to allow these two types of effects to vary by site. (Note that pure site indicators are redundant in the model, because they are subsumed in the individual fixed effects.) Second, we doubled the number of site waiver, fixed year, predisability, and length of disability receipt variables by including one set of variables for SSI recipients and another for SSDI beneficiaries. (Again, an indicator variable for SSI recipients *versus* SSDI beneficiaries is redundant, because it is subsumed in the individual effects.) The dually eligible are included with SSI recipients because of the similarity in their level of earnings. The equation thus contains 16 waiver indicators (for 8 sites × 2 beneficiary types), 12 year indicators (for 6 years × 2 beneficiary types, one year being omitted), two predisability measures, and two length of disability measures.

Because we do not have individual level data, we take averages across the *earnings groups* of all the variables, resulting in the following equation:

$$EARNINGS_{g,t} = A_g + \sum B_{1st} + \sum B_{2st} + \sum C_1 WAIVER_{1g,t} + \sum C_2 WAIVER_{2g,t} + D_1 PREDIS_{1g,t} + D_2 PREDIS_{2g,t} + E_1 ONDIS_{1g,t} + E_2 ONDIS_{2g,t} + u_{g,t},$$

where $EARNINGS_{g,t}$= average earnings of individuals in group *g* in calendar year *t*;
A_g = expected or typical earnings for individuals in group *g*;
B_{1st} = perturbation associated with calendar year *t* in site *s* multiplied by $F_{1g;}$
B_{2st} = perturbation associated with calendar year *t* in site s multiplied by F_{2g};
$WAIVER_{1g,t}$ = average fraction of the year following solicitation in earnings group *g* multiplied by F_{1g};
$WAIVER_{2g,t}$ = average fraction of the year following solicitation in earnings group *g* multiplied by $F_{2g;}$
$PREDIS_{1g,t}$= average fraction of the year predating receipt of SSI/SSDI benefits multiplied by F_{1g};

[5] This measure is a proxy for time elapsed since onset of disability, for which data are not available. Data on time elapsed since *application* for disability benefits were also not available.

$PREDIS_{2g,t}$= average fraction of the year predating receipt of SSI/SSDI benefits multiplied by F_{2g};
$ONDIS_{1g,t}$= average number of years of receipt of SSI/SSDI benefits to date, multiplied by F_{1g};
$ONDIS_{2g,t}$= average fraction of years of receipt of SSI/SSDI benefits to date, multiplied by F_{2g};
F_{1g} and F_{2g} are the fractions of earnings group *g* that are SSI recipients (including concurrent beneficiaries) and SSDI beneficiaries, respectively,
and all sums are taken over the eight sites (*s*= 1 to 8).

4.4 Earnings Impacts: Doppelgänger Model for SSI Applicants

The fixed effects model cannot be used for new SSI applicants. We have *no* prewaiver, postdisability data for these particular individuals to use as a counterfactual, because they were solicited at the same time they applied to SSI. Thus, SSI applicants cannot be their own controls. We therefore need to use another comparison group, who (a) are also SSI applicants, and (b) who would have volunteered to participate in Project NetWork if they had been solicited. We identify these as those individuals who applied for SSI in earlier years (primarily 1991, but occasionally 1992 and, in a few cases, 1993), and later volunteered for Project NetWork as ongoing recipients. Their earnings during their prewaiver (but post-application) years serve as the counterfactual for the postwaiver years of the new SSI applicants.

To control for differences between the waiver group and their doppelgängers, we include a limited set of covariates. The small sample size precludes using a large set. The variables that are included are prior months of SSI/SSDI receipt and indicator variables for the following characteristics:

- high school diploma or better
- education missing
- female
- single
- white
- primary impairment mental
- age 18 to 30
- age 46 or more.

The basic individual-level model is thus:

$$EARNINGS_{i,t} = b_0 + b_1 X_{i,t} + b_2 WAIVER_{i,t} + b_3 PREDIS_{i,t} + u_{i,t},$$

where $X_{i,t}$ are the characteristics of individual *I* in year *t*, including age, race, sex, marital status, and so on.

As in the ongoing beneficiaries model, the observations are combined into earnings groups. The X's thus represent group averages, e.g. the percent of a group that is female. Furthermore, site indicators are interacted with the WAIVER indicator.

It should be reiterated that the doppelgänger approach for SSI applicants is inherently weaker than the fixed effects model used for ongoing recipients on two accounts. First, the two groups of SSI applicants may not be equivalent, and the covariates may not be sufficient to fix this. In particular, the waiver group includes SSI applicants whose applications for benefits were rejected, and the comparison group does not. Second, this approach has no ability to distinguish between the effects of waivers and the effects of secular changes, such as the overall improvement in the economy that occurred during this period.

4.5 Benefits Impacts: Contemporaneous Comparison Group Approach

A third approach is used for our analyses of waiver effects on SSI and SSDI benefits. These estimates are based on individual-level rather than grouped data. Data on SSI benefits were available through December 1996, giving us a 30 month follow-up period. Impacts were estimated for three time spans: the first 12 months after solicitation, the second 12 months after solicitation, and the full 30 months. An additional year of data (through December of 1997) was available for SSDI benefits. These benefits are therefore examined in four time spans: each of the first three follow-up years, and the full 42 months. For each time period, both benefit amount and percent of months in which benefits were received are analyzed. Furthermore, separate models are estimated for each of the four beneficiary types (ongoing SSI, ongoing SSDI, ongoing dually eligible, and new SSI applicants). Treatment group members, who received Project NetWork services as well as waivers, are excluded from the analyses.

Faute de mieux, we have used nonvolunteers as a comparison group when analyzing impacts on benefits. While we remain concerned about the unmeasured differences between volunteers and nonvolunteers in motivation, employment opportunities, family support, etc., no practical alternative is available.

Our estimates are based on regression models of the form:

$$BENEFITS_{i,t} = b_{0,t} + \sum b_{1s,t} WAIVER_i + b_{2,t} X_i,$$

where $BENEFITS_{i,t}$ is a measure of SSI or SSDI benefits for individual *I* in time period *t*;

$WAIVER_i$ is an indicator that individual *I* volunteered for Project NetWork and received a waiver; and

X_i is a vector of baseline characteristics of individual *I*: number of months receiving disability benefits prior to solicitation (in months 1-6, 7-12, 13-18, 19-24, and prior to 1990); average monthly disability payments prior to solicitation (in months 1-6, 7-12, 13-18, and 19-24, and prior to 1990); gender; race; primary impairment; demonstration site; age at solicitation; permanent disability; and years of education at solicitation.

The time subscripts on the coefficients are included to indicate that separate models are estimated for each of the three time periods relative to solicitation. The waiver indicator and the X's are the same for each individual across the three time periods. Separate coefficients are estimated for the waiver effect in each of the eight sites, and then averaged.

4.6 Concluding Remarks

The methodologies presented in this chapter are, we believe, the best approaches available within the constraints of the Project NetWork sample and data. Nevertheless, as we have indicated throughout the discussion, each is subject to important potential weaknesses and limitations. Our choice of these methods reflects our judgment as to the severity of these weaknesses and limitations relative to those of the alternative approaches available. In any future analysis of these questions, it might well be useful to conduct a sensitivity analysis to see how the results would change if some of the approaches not adopted here were employed. Thus, the present analysis should be viewed as exploratory.

Chapter Five
The Impact of Waivers on Earnings and Benefit Receipt

This chapter examines the impacts of the waiver provisions on the earnings and SSDI and SSI benefits received by Project NetWork volunteers. The waivers were designed to encourage employment by protecting participants from losing eligibility for SSDI or SSI because of earnings. Consequently, the principal research question addressed in this chapter is, **"Did the waiver provisions increase participants' earnings?"** The chapter also examines the impacts of waivers on SSDI and SSI receipt and benefits.

Because both treatment and control group members received waivers, the random assignment design cannot be used to determine impacts of waivers. Therefore, this report uses non-experimental approaches to estimate the impacts of waivers.

The waiver provisions were intended to encourage participants to become employed, by protecting them from losing eligibility for SSDI or SSI due to earnings during a twelve month period starting when participants became employed.[1] To the extent that the waivers succeeded in this objective, they should increase participants' average earnings, at least during their participation in Project NetWork. In the short run, the waivers might be expected to lead to higher participation in SSDI and (to a much lesser extent) SSI, whether or not they induce greater employment, as beneficiaries and recipients who would have gone off the rolls because of employment have their eligibility extended by the waivers. In the longer run, to the extent that the waivers succeed in increasing earnings, they should have led to reduced reliance on disability benefits. Even in the short run, increased earnings should reduce the amount of SSI benefits received, because of the SSI tax rate on earnings. SSDI benefits are likely to increase in the short run, along with participation rates. The results presented in this chapter generally reflect only the short-run effects of waivers.

This chapter presents results separately for SSDI beneficiaries, ongoing SSI recipients, and SSI applicants. To summarize the results: overall, there is little evidence that waivers affected earnings or benefit receipt for any group. These results should be viewed with caution, however, because of limitations of the non-experimental approach and the data available, and because we have not attempted to conduct sensitivity analyses with alternative approaches.

1 In the case of SSDI, this 12-month period is in addition to the existing trial work period and extended period of eligibility under the standard work rules.

5.1 Waiver Impacts on Earnings

This section summarizes the approaches used to estimate the impact of waivers on earnings, and presents the impact estimates. As explained in the previous chapter, different approaches were used for ongoing beneficiaries and SSI applicants.

5.1.1 Earnings Impacts for SSDI and Ongoing SSI Beneficiaries

The essence of the approach to estimating earnings impacts for Project NetWork volunteers who were ongoing SSDI beneficiaries or SSI recipients was to compare annual earnings after solicitation for Project NetWork control group members to annual earnings before solicitation (but after SSDI or SSI receipt) for control and treatment group members. Earnings *before* Project NetWork solicitation represent clients' responses to the standard earnings incentives available to disability beneficiaries. Earnings *after* Project NetWork solicitation—for control group members—represent clients' responses to waivers.[2] Therefore, the difference in earnings for Project NetWork volunteers before and after solicitation provides an estimate of the impact of waivers.

Impacts were estimated separately for SSDI beneficiaries and ongoing SSI recipients, because the waivers had different implications for these two groups and because the two groups have very different average earnings.[3] (See Chapter 3 for evidence on the latter point.) In principle, the waivers could be expected to provide stronger incentives to SSDI beneficiaries than to SSI recipients. Waivers allowed SSDI beneficiaries to work for 12 months without affecting benefits or current or future SSDI eligibility. For SSI recipients, waivers prevented a disability or blindness review for 12 months but, at the time of the demonstration, such reviews were rarely conducted for any SSI beneficiaries.[4] Waivers were also less important for SSI recipients because they had no effect on benefits; that is, earnings during the waiver period reduced SSI benefits just as earnings would reduce SSI benefits in the absence of waivers. For these reasons, waivers did not greatly alter the earnings incentives typically faced by SSI recipients. Nevertheless, if SSI recipients *believed* the waivers reduced the costs of working, then an earnings impact is possible for SSI recipients. Consequently, this chapter presents impacts for both SSDI beneficiaries and SSI recipients.

2 Treatment group members are excluded from the intervention (post-solicitation) group because their post-solicitation earnings may have been affected by Project NetWork *services*, not just by waivers. The purpose of the analysis in this report is to isolate the effect of waivers.

3 Impacts were not estimated for other possible subgroups, such as demonstration model or primary impairment, due to sample size limitations, and lack of homogeneity in the earnings groups with respect to primary impairment.

4 According to the SSI Annual Report (SSA 1997), continuing disability reviews were conducted on less than 1 percent of SSI-only and concurrent beneficiaries on the rolls during 1993 through 1995.

Average earnings impacts were estimated for the period between solicitation date and the end of 1996. Because most clients were solicited in 1993, the length of the follow-up period was between three and four years for the typical sample member.

The fixed effects model described in Chapter 3 provides little evidence that waivers increased participants' annual earnings. Exhibit 5.1 shows that estimated earnings impacts are positive for SSDI beneficiaries and negative for SSI recipients, but neither estimate is statistically significant.[5]

These non-experimental results, together with the small positive earnings impacts found using the random assignment design for the Project NetWork case management/referral services (see Kornfeld et al.1999), are consistent with the hypothesis that Project NetWork services were effective in boosting participants' earnings, but waivers were not. It is also possible, however, that the lack of observed impacts from the waivers is due to limitations of the non-experimental approach and shortcomings of the data. These issues are discussed further in this chapter's conclusion.

5.1.2 Earnings Impacts for SSI Applicants

The expected impacts of waivers on the earnings of SSI applicants are small, for the same reasons that waiver impacts are expected to be small for ongoing SSI recipients. As noted above, for SSI recipients, waivers did not affect the reduction in benefits due to earnings. The sole effect of waivers was to preclude a medical review for 12 months that might otherwise be triggered by employment. The real value of the waivers was small, however, because even without the waiver it was very unlikely that a medical review would be conducted. Even so, if SSI applicants *believed* that the waiver provided an earnings incentive, the waiver may have had an impact. For this reason it is worthwhile to attempt to estimate waiver impacts for SSI applicants.

The approach to estimating waiver impacts for SSI applicants involved comparing annual earnings after solicitation for Project NetWork to the annual earnings of a comparison group before solicitation. In the case of SSI applicants, the "after solicitation" group consists of Project NetWork control group members who were solicited at SSI application. The "before solicitation" group consists of Project NetWork control and treatment group members who applied for SSI in 1991, before solicitation for Project NetWork began. Earnings for these clients after application for SSI and before solicitation for Project NetWork represent the counterfactual: the level of earnings for SSI applicants in the absence of waivers. The earnings after solicitation of control group members who were solicited at SSI application reflect earnings in the presence of waivers. The difference in earnings between these two groups is an estimate of the impact of waivers.

5 At the site level, impact estimates for SSDI beneficiaries are positive in seven of the eight sites, but the estimates are statistically significant in only two of the sites. For ongoing SSI recipients, seven of the eight site impacts are negative, but only one of the eight site estimates is statistically significant.

Exhibit 5.1
Impacts of Waivers on Annual Earnings, by Title of Eligibility

Subgroup and Outcome	Estimated Earnings Without Waivers[a]	Estimated Impact Due to 12 Months of Waivers	Std. Error	Percentage Impact
SSDI Beneficiaries				
Annual earnings	$1,969	$229	405	12
Ongoing SSI and Dually-Eligible Recipients				
Annual earnings	1,977	-596	510	-30
SSI Applicants				
Annual earnings	2,105	-303	379	-14

* Statistically significant at the 10 percent level
** Statistically significant at the 5 percent level
*** Statistically significant at the 1 percent level

a. For SSDI beneficiaries, and ongoing SSI and dually eligible recipients, the estimated earnings without waivers are calculated as annual earnings for all earning groups in the model for 1995 and 1996, minus the estimated impact. For SSI applicants, estimated earnings without waivers are calculated as annual earnings for the intervention group for 1993, minus the estimated impact.

The sample size for the fixed-effects model used to estimate earnings impacts for SSDI, SSI, and dually-eligible beneficiaries is 1,974 group-year observations. This represents:

-- 266 earnings groups and 3,034 persons in those earnings groups for SSDI beneficiaries;
-- 84 earnings groups and 1,072 persons for SSI recipients; and
-- 39 earnings groups and 498 persons for dually-eligible recipients.

The sample size for the model used to estimate earnings impacts for SSI applicants is 175 group-year observations, 94 for the intervention group and 81 for the comparison group. This represents:

-- 74 earnings groups and 890 persons in the intervention group, and
-- 52 groups and 674 persons for the comparison group.

Source: Grouped earnings data provided by SSA/ORES from the Master Earnings File (MEF).

Impacts were estimated by comparing earnings in 1992 and 1993 for the intervention group to earnings in 1991 and 1992 for the comparison group. The model uses only two years of post-solicitation earnings for the intervention group for comparability with the comparison group. Using additional years after solicitation for the intervention group would overstate impacts, given the tendency for average earnings to increase over time for SSI applicants, including non-volunteers. (See Chapter 3 for evidence on this point.)

There is no evidence of an effect of waivers on earnings for SSI applicants. The bottom row of Exhibit 5.1 shows that 12 months of waivers are estimated to decrease annual earnings for SSI applicants by $303. This estimate is not significantly different from zero.[6]

5.2 Impacts on SSDI and SSI Benefit Receipt

In the short run, Project NetWork waivers can be expected to increase SSDI participation over what it would have been in the absence of waivers, even if volunteers did not change their behavior in response to the waivers. Some Project NetWork volunteers worked during the waiver period, either because of the waivers or for other reasons. Regardless of the reason for working, waivers enabled clients earning above the level of substantial gainful activity to remain on SSDI for an additional 12 months. Therefore, SSDI participation rates should be higher with waivers than without waivers, at least during the first year or two after random assignment. This should be true even if volunteers did not change their behavior in response to waivers. In the longer run, if the waivers increased employment and earnings, they may have reduced SSDI participation and benefits.

Any short- or long-run effects on SSDI participation should lead to corresponding effects on SSDI payments. If waivers increased SSDI participation in the short run, they should increase average payments by a similar proportion. In the longer run, if waivers reduced SSDI participation, they should likewise reduce payments.

Waivers can be expected to have smaller effects on SSI participation. Because medical reviews for continued SSI eligibility were generally not being conducted during the Project NetWork demonstration period, the suspension of such reviews for 12 months is not likely to have lengthened stays on SSI. Further, section 1619 of the 1980 amendments to the Social Security Act (P.L. 99-643) allowed clients working at or above SGA levels to continue receiving SSI benefits so long as they continued to meet other eligibility requirements.

Nevertheless, there might have been an effect on SSI benefits. If SSI recipients increased their employment because they *perceived* that waivers reduced the likelihood of a medical review,

6 Because of the small sample size, it was not possible to estimate site-specific waiver impacts for SSI applicants.

then SSI payments would be expected to decrease, because each dollar of additional earnings above $65 reduces SSI benefits by 50 percent.

Impacts on SSDI and SSI benefit receipt were estimated by comparing benefit receipt for Project NetWork control group members with beneficiaries and recipients who were solicited for Project NetWork but did not volunteer. The control group received the benefit of waivers, while non-volunteers received no waivers, so that, to the extent that other differences between the two groups can be statistically eliminated, the difference in participation and payments between the two groups represents the impact of waivers on benefit receipt.

Impacts were estimated separately for SSDI beneficiaries, dually-eligible recipients, ongoing SSI recipients, and SSI applicants. The intervention group consisted of all control group members in each of these subgroups, and the comparison group consisted of all solicitees who did not volunteer. Because only about five percent of solicitees volunteered, and because half of the volunteers were assigned to the control group, the comparison group is about 40 times larger than the intervention group. Unlike the analysis for earnings impacts, observations are at the individual level, rather than groups of individuals.

Data on SSI benefits were available through December 1996, giving us a 30 month follow-up period. Impacts were estimated for three time spans: the first 12 months after solicitation, the second 12 months after solicitation, and the full 30 months. An additional year of data (through December of 1997) was available for SSDI benefits. These benefits are therefore examined in four time spans: each of the first three follow-up years, and the full 42 months.

The key difference between the approach used to estimate impacts on benefit receipt and that used for impacts on earnings is that the former relies on non-volunteers as the comparison group. Although non-volunteers are the best available comparison group for estimating impacts on benefits (as explained in Chapter 3), there is a risk of selection bias if non-volunteers differ systematically from volunteers, as seems likely. For example, if volunteers are more able and interested in working than non-volunteers, then they may be expected to have shorter stays on SSDI and SSI than non-volunteers, even in the absence of waivers. If the impact models do not fully account for this inherent difference, and if waivers had no effects, then the estimated impacts on participation and benefits would likely be negative, and spurious. A statistically significant impact estimate that is positive is not likely to be caused by selection bias, however.

The estimated impacts on SSDI benefit receipt are generally small; the proportionate impacts range from 2 to 4 percent for SSDI participation rates, and 1 to 3 percent for SSDI payments. (See Exhibit 5.2.) Most of these estimates are statistically significant. Because these estimated impacts are in the expected direction and in the opposite direction from what would be expected due to selection bias, there is reason to believe that these estimates reflect a true impact of waivers. It is unclear, however, whether this is due to a change in behavior in response to

waivers or to the automatic effects of the waivers extending the eligibility of beneficiaries who would have worked anyway.

For dually-eligible beneficiaries, the estimated impacts on both SSDI and SSI benefit receipt have the expected sign but are mostly not significantly different from zero. (See Exhibits 5.2 and 5.3.) Impacts on SSDI participation and payments are all positive, as expected, but only two of the eight estimates are significant. The estimated effects on SSI participation for dually-eligible beneficiaries are not significantly different from zero, as expected, and the estimated effects on SSI payments are mostly negative, as expected, and are not statistically significant.

For ongoing SSI recipients, none of the estimated impacts on SSI participation or payments are statistically significant, and none is larger than 2 percent (Exhibit 5.3).

For SSI applicants, the estimated impacts on participation are not significant, but the estimated impacts on SSI payments in year 2 and for the entire follow-up period are negative and significant. The payment impact estimates are in the expected direction, but they are also in the direction consistent with selection bias. Given the latter fact, the lack of evidence of a corresponding positive impact on earnings for this group, and the fact that waivers had little or no real effect on earnings incentives for SSI recipients, it seems likely that the significant impacts on SSI payments for SSI applicants may be due to selection bias.

Exhibit 5.2
Estimated Impacts of Project NetWork Waivers on SSDI Participation and Payments

Subgroup, Outcome and Time Period	Comparison Group Mean	Estimated Impact	Std. Error	Percentage Impact
SSDI Beneficiaries				
Percentage of months receiving SSDI				
Year 1	.968	0.025***	0.005	3
Year 2	.923	0.038***	0.008	4
Year 3	.885	0.022**	0.010	2
Entire follow-up (months 1-42)	.916	0.025***	0.007	3
Monthly SSDI benefits				
Year 1	$675	9**	4.5	1
Year 2	646	17***	6.6	3
Year 3	621	5	7.9	1
Entire follow-up (months 1-42)	641	8	6.0	1
Dually-Eligible Beneficiaries				
Percentage of months receiving SSDI				
Year 1	.977	0.021**	0.009	2
Year 2	.940	0.031*	0.016	3
Year 3	.904	0.010	0.021	1
Entire follow-up (months 1-42)	.931	0.017	0.015	2
Monthly SSDI benefits				
Year 1	362	6	5.1	2
Year 2	354	9	7.4	3
Year 3	344	3	9.5	1
Entire follow-up (months 1-42)	351	5	7.0	1

* Statistically significant at the 10 percent level
** Statistically significant at the 5 percent level
*** Statistically significant at the 1 percent level

The sample sizes of persons analyzed for this exhibit are as follows:

-- SSDI beneficiaries: 1,549 intervention group members, 60,104 comparison group members;
-- Dually-eligible beneficiaries: 297 intervention group members, 10,399 comparison group members.

Source: Administrative data on benefit receipt provided by SSA/ORES from the MBR810/811 and SSR831 source files.

Exhibit 5.3
Estimated Impacts of Project NetWork Waivers on SSI Participation and Payments

Subgroup, Outcome and Time Period	Comparison Group Mean	Estimated Impact	Std. Error	Percentage Impact
Ongoing SSI Recipients				
Percentage of months receiving SSI				
Year 1	.952	0.001	0.008	0
Year 2	.902	0.000	0.012	0
Entire follow-up (months 1-30)	.916	0.003	0.010	0
Monthly SSI benefits				
Year 1	$385	6	3.9	2
Year 2	363	5	5.8	1
Entire follow-up (months 1-30)	369	6	4.7	2
Dually-Eligible Beneficiaries				
Percentage of months receiving SSI				
Year 1	.896	-0.001	-0.018	0
Year 2	.818	-0.035	-0.025	-4
Entire follow-up (months 1-30)	.841	-0.023	-0.021	-3
Monthly SSI benefits				
Year 1	$139	0	-5.6	0
Year 2	122	-3	-6.8	-2
Entire follow-up (months 1-30)	127	-2	-5.9	-2
SSI Applicants				
Percentage of months receiving SSI				
Year 1	.332	-0.001	-0.014	0
Year 2	.294	-0.009	-0.015	-3
Entire follow-up (months 1-30)	.308	-0.007	-0.013	-2
Monthly SSI benefits				
Year 1	$118	-8	-5.5	-7
Year 2	101	-11*	-5.8	-11
Entire follow-up (months 1-30)	107	-11**	-5.4	-10

* Statistically significant at the 10 percent level
** Statistically significant at the 5 percent level
*** Statistically significant at the 1 percent level

The sample sizes of persons analyzed for this exhibit are as follows:

-- Ongoing SSI recipients: 605 intervention group members, 27,816 comparison group members;
-- Dually-eligible beneficiaries: 297 intervention group members, 10,399 comparison group members;
-- SSI applicants: 899 intervention group members, 40,294 comparison group members.

Source: Administrative data on benefit receipt provided by SSA/ORES from the MBR810/811 and SSR831 source files.

5.3 Conclusions

The results presented in this chapter provide little or no evidence that the Project NetWork waivers by themselves affected the earnings of SSDI beneficiaries, ongoing SSI recipients (including dually-eligible recipients), or SSI applicants. The overall estimated impacts of waivers on earnings were not statistically significant for any of these three subgroups. Earnings impact estimates were statistically significant in only two of eight sites for SSDI beneficiaries, and in only one site for ongoing SSI recipients. This number of statistically significant site-level impacts could well have occurred by chance alone. Site-level impacts could not be estimated for SSI applicants given the small sample size.

Similarly, there is little evidence that waivers affected SSDI or SSI receipt. One possible exception is for SSDI beneficiaries, for whom waivers may have increased SSDI participation in the short-run. The estimated impacts on participation, however, are small. For the other subgroups, estimated impacts on participation and payments are generally small and not significant.

The results presented here should be viewed with some caution. Because both treatment and control group members received waivers, it was necessary to use a non-experimental approach to test the separate effects of waivers. Non-experimental approaches generally yield less reliable impact estimates, because of the difficulties of controlling for other influences on the outcomes of interest. As discussed in Chapter 3, limitations of the earnings data—the fact that they were available only for groups of individuals and only by calendar year—further weakened our ability to measure waiver impacts accurately.

Despite their limitations, we believe that the analysis methods employed here are the strongest available. Other approaches to estimating these impacts are, however, possible. We have not attempted to compare the results that would be obtained with those approaches with the estimates presented here. In that sense, the present analysis should be regarded as exploratory.

Beyond these limitations of design and data, results from the demonstration's process study suggest that waivers were not administered effectively, and potential participants did not fully understand the waiver provisions. This lack of understanding may reflect the complexity of the waivers and SSA's regular work incentives, mental disabilities on the part of beneficiaries, measurement error in the survey instrument, or failure to communicate these provisions to beneficiaries, recipients, and applicants.

The results of this analysis do not rule out the possibility that effective earnings incentives can be designed for SSDI and SSI beneficiaries, or that existing earnings incentives are effective for a different group of beneficiaries in current disability programs. The survey data discussed in Chapter 2 show that the great majority of clients—both Project NetWork eligibles solicited for the demonstration and nonparticipants—want to work, and Project NetWork participants

indicated a strong interest in receiving the waivers. Given these results, it is possible that earnings incentives that are more transparent to clients and are better implemented would be effective in increasing clients' employment and earnings. Further, a random assignment evaluation of such incentives would provide stronger evidence than the analysis in this report of the effectiveness of earnings incentives.

Even in the absence of clear evidence that earnings incentives are effective for SSDI and SSI beneficiaries, such incentives may still be desirable from a public policy standpoint. Policymakers may decide that clients who work should be rewarded for doing so. A key issue then is how to design incentives that are as effective as possible within a given program budget, because more generous earnings incentives are likely to increase program costs.

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Appendix A
Baseline and Follow-up Survey Data and Sample Weights

In Chapter Two, tabulations of data from the baseline and follow-up survey are presented. This appendix describes the weighting used in those tabulations.

A subset of SSI applicants, SSI recipients, and SSDI beneficiaries were administered a *baseline survey* within a few months of solicitation. The survey is a rich source of information on individual characteristics such as health, functional limitations, work history, personal attitudes and outlook, and others. Of particular interest in the analysis of waiver impacts is information collected in the survey regarding respondents' knowledge and understanding of the standard work incentives and the demonstration waivers. The baseline survey heavily oversampled Project NetWork participants, especially SSI applicants and recipients under age 30, and also suffered from a very high nonresponse rate among nonparticipants. A total of 3,439 interviews were completed for the baseline survey, including 2,555 participants and 884 nonparticipants. Survey response rates were 87 percent for participants, 53 percent for nonparticipating beneficiaries and recipients, and 49 percent for nonparticipating SSI applicants.

The survey included some individuals who were later determined not to have been solicited for Project NetWork (Exhibit A.1). Our treatment of these individuals in Chapter Two varied by whether or not they participated in Project NetWork.

The small number of nonsolicited individuals who were surveyed but did not participate in Project NetWork were dropped from the analysis. Nonsolicited individuals who were surveyed and did participate in Project NetWork have been included in this analysis. These individuals are representative of the substantial fraction (around 20 percent) of all Project NetWork volunteers who were not solicited by mail or in person, but were referred by other agencies or heard about the project through word-of-mouth. Their inclusion is necessary to present a complete description of Project NetWork volunteers.

In the exhibits shown in Chapter Two, survey responses *of eligibles* have been weighted to correspond to the joint distribution among the 145,404 solicitees of four key variables:

- Model
- Beneficiary type (SSI applicant, SSI recipient, SSDI beneficiary, concurrent beneficiary)
- Young SSI (applicants and recipients up to age 30)
- Participant status (yes or no).

Nonsolicited individuals are excluded from these tabulations (e.g., first column of Exhibit 2.1). Survey responses of *participants*, when shown separately, have been weighted to correspond to the joint distribution among the 8,248 volunteers of the same four variables. Nonsolicited participants are included (e.g., second column of Exhibit 2.1).

To develop the weights used for the "all eligibles" tabulations, solicited individuals in both the baseline survey and the SSA administrative files were partitioned into 56 cells, corresponding to all combinations of the four variables listed above. Because young SSI could only be SSI applicants, SSI beneficiaries, or concurrent beneficiaries, there were 56 cells instead of 64. Each individual in the baseline survey was then assigned a cell weight equal to the number of individuals in the corresponding cell in the full solicitee file divided by the corresponding number in the survey file. For example, the baseline survey contained 59 Project NetWork participants who were SSI applicants under age 30 in the Model 1 sites, while the administrative file contained 124 such individuals. Hence each such person in the survey was assigned a weight of 2.102 (=124/59).

A similar approach was used for developing the weights for the Project NetWork participant tabulation. Cell weights were developed to make the distribution of the survey sample match that of the total population of Project NetWork volunteers (n=8,248) according to model, beneficiary type, and young SSI status, for a total of 28 cells.

Finally, weights were developed for the *follow-up survey* sample (n=1,521), which was administered to Project NetWork participants only. There weights were based on the same 28 cells used for participants in the baseline survey.

Appendix B
Regression Results

This appendix presents the complete regression results for the earnings impacts presented in Exhibit 5.1 and, as examples, the complete regression results for the first row of benefits impacts in Exhibits 5.2, 5.3, and 5.4.

Exhibit B.1
Estimated Impacts of Waivers on Annual Earnings for SSDI Beneficiaries and Ongoing SSI Recipients
Complete Results of Fixed-Effects Model

Variable	Coefficient	Standard Error	t-statistic
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 1	4.20	26.93	0.16
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 2	75.97	29.36	2.59
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 3	46.05	27.86	1.65
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 4	2.79	27.20	0.10
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 5	-74.76	201.96	-0.37
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 6	31.77	26.58	1.20
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 7	44.11	27.93	1.58
Number of months in year that are post-solicitation* Proportion of group that are SSDI beneficiaries*Site 8	22.84	27.36	0.84
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 1	13.80	51.77	0.27
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 2	-99.48	61.01	-1.63
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 3	-112.70	58.35	-1.93
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 4	-17.09	46.44	-0.37
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 5	-9.28	51.73	-0.18
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 6	-49.31	44.86	-1.10
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 7	-60.14	45.40	-1.33
Number of months in year that are post-solicitation* Proportion of group that are SSI recipients*Site 8	-63.12	45.13	-1.40
Average proportion of the year predating receipt of SSDI benefits*Proportion of group that are SSDI beneficiaries	448.34	40.18	11.16

Exhibit B.1
Estimated Impacts of Waivers on Annual Earnings for SSDI Beneficiaries and Ongoing SSI Recipients
Complete Results of Fixed-Effects Model

Variable	Coefficient	Standard Error	t-statistic
Average proportion of the year predating receipt of SSI benefits*Proportion of group that are SSI recipients	272.69	52.66	5.18
Average number of months of SSDI benefits through the end of the prior year*Proportion of group that are SSDI beneficiaries	167.82	21.28	7.89
Average number of months of SSI benefits through the end of the prior year*Proportion of group that are SSI recipients	-37.28	25.71	-1.45
Overall impact estimate for SSDI beneficiaries (average of site impacts), annualized	229	405	0.57
Overall impact estimate for SSI recipients (average of site impacts), annualized	-596	510	-1.17

Sample size: 1,974 observations for 400 groups

R-squared	within:	0.593
	between:	0.033
	overall:	0.069

Notes:
(1) Individual group and year indicator variables are not reported.
(2) Overall impact estimates are calculated as the simple average of the eight site-level impacts.

Exhibit B.2
Estimated Impacts of Waivers on Annual Earnings for SSI Applicants
Complete Results of OLS Model

Variable	Coefficient	Standard Error	t-statistic
Proportion of year that is post-solicitation* intervention group	-302.77	378.72	-0.80
Number of months in the year that are pre-solicitation	281.23	50.61	5.56
Number of months of SSI or SSDI receipt prior to 1991 for comparison group, and prior to 1992 for intervention group	-226.42	65.59	-3.45
Number of months of SSI or SSDI receipt prior to 1992 for comparison group, and prior to 1993 for intervention group	215.07	62.07	3.47
Has high school diploma	-241.48	717.47	-0.34
Educational attainment missing	605.70	574.93	1.05
Marital status single	1,313.09	787.31	1.67
Female	-815.72	399.50	-2.04
White	199.55	559.13	0.36
Primary impairment mental	-1,878.30	546.65	-3.44
Age 18 to 30	-534.07	1,510.30	-0.35
Age 31 to 45	93.67	1,410.16	0.07
Age 46 or more	91.36	1,525.00	0.06
Constant	552.06	3,317.79	0.17

Sample size: 175 observations for 126 groups

R-squared: .29

Exhibit B.3
Estimated Impacts of Waivers on Percentage of Months Receiving SSDI: Year 1, for SSDI Beneficiaries
Complete Results of OLS Model

Variable	Coefficient	Standard Error	t-statistic
Intervention group*Site 1	0.013	0.010	1.30
Intervention group*Site 2	0.026	0.010	2.62
Intervention group*Site 3	0.027	0.009	3.03
Intervention group*Site 4	0.026	0.011	2.29
Intervention group*Site 5	0.024	0.010	2.43
Intervention group*Site 6	0.032	0.027	1.16
Intervention group*Site 7	0.024	0.009	2.52
Intervention group*Site 8	0.027	0.010	2.52
Proportion of months receiving SSDI, out of months 1-6 before solicitation	0.020	0.007	2.80
Proportion of months receiving SSDI, out of months 7-12 before solicitation	-0.014	0.005	-3.11
Proportion of months receiving SSDI, out of months 13-18 before solicitation	0.017	0.004	3.77
Proportion of months receiving SSDI, out of months 19-24 before solicitation	0.002	0.003	0.80
Number of months of SSDI receipt prior to 1990 plus number of months of SSDI receipt from 1/1/90 until solicitation month, minus the number of months of SSDI receipt in the 24 months immediately before solicitation	0.000045	0.000012	3.72
Female	0.010	0.001	7.78
Black	-0.00015	0.0016	-0.10
Other race or ethnicity (non-white and non-black)	0.00012	0.0040	0.03
Race or ethnicity missing	0.00070	0.0060	0.12
Primary impairment mental	0.035	0.0015	23.26
Primary impairment neurological	0.034	0.0025	13.77
Primary impairment muscular	0.036	0.0018	20.29
Primary impairment missing	0.025	0.0026	9.77
Site 1	0.008	0.002	3.47
Site 2	0.004	0.002	1.96
Site 3	0.001	0.002	0.57

Exhibit B.3
Estimated Impacts of Waivers on Percentage of Months Receiving SSDI: Year 1, for SSDI Beneficiaries
Complete Results of OLS Model

Variable	Coefficient	Standard Error	t-statistic
Site 4	0.006	0.002	2.70
Site 6	0.006	0.005	1.12
Site 7	0.0024	0.0023	1.03
Site 8	0.002	0.002	1.05
Age 31 to 45	0.016	0.002	6.86
Age 46 to 59	0.022	0.002	9.33
Age 60 or more	0.013	0.004	3.46
Not permanently disabled	0.032	0.003	12.26
Permanent disability status missing	0.023	0.003	8.68
Education high school	-0.006	0.006	-2.96
Education college or above	-0.020	0.002	-8.494
Education missing	-0.0001	0.002	-0.047
Constant	0.877	0.006	138.47
Overall impact estimate for SSDI beneficiaries (average of site impacts)	0.025	0.005	5.19

Sample size: 61,653

R-squared: .027

Exhibit B.4
Estimated Impacts of Waivers on Percentage of Months Receiving SSI:
Year 1, for SSI Recipients
Complete Results of OLS Model

Variable	Coefficient	Standard Error	t-statistic
Intervention group*Site 1	0.001	0.016	0.06
Intervention group*Site 2	0.020	0.025	0.83
Intervention group*Site 3	-0.045	0.025	-1.78
Intervention group*Site 4	-0.002	0.029	-0.07
Intervention group*Site 5	0.008	0.019	0.40
Intervention group*Site 6	0.012	0.016	0.76
Intervention group*Site 7	-0.003	0.016	-0.18
Intervention group*Site 8	0.017	0.020	0.87
Proportion of months receiving SSI, out of months 1-6 before solicitation	0.234	0.016	14.90
Proportion of months receiving SSI, out of months 7-12 before solicitation	0.080	0.009	8.79
Proportion of months receiving SSI, out of months 13-18 before solicitation	0.003	0.007	0.47
Proportion of months receiving SSI, out of months 19-24 before solicitation	0.009	0.0048	1.91
SSI chargeable earned income in months 1-6 before solicitation	-0.00034	0.000037	-9.31
SSI chargeable earned income in months 7-12 before solicitation	-0.000006	0.000042	-0.14
SSI chargeable earned income in months 13-18 before solicitation	0.000003	0.000045	0.07
SSI chargeable earned income in months 19-24 before solicitation	0.000011	0.000041	0.27
Number of months of SSI receipt prior to 1990 plus number of months of SSI receipt from 1/1/90 until solicitation month, minus the number of months of SSI receipt in the 24 months immediately before solicitation	0.000008	0.000027	0.28
Female	0.015	0.002	7.48
Black	0.009	0.003	3.29
Other race or ethnicity (non-white and non-black)	0.016	0.004	4.06
Race or ethnicity missing	0.004	0.005	0.97
Primary impairment mental	0.026	0.003	9.54
Primary impairment neurological	0.021	0.005	3.95
Primary impairment muscular	0.023	0.005	4.72

Exhibit B.4
Estimated Impacts of Waivers on Percentage of Months Receiving SSI: Year 1, for SSI Recipients
Complete Results of OLS Model

Variable	Coefficient	Standard Error	t-statistic
Primary impairment missing	0.027	0.004	6.78
Site 1	0.005	0.004	1.43
Site 2	0.001	0.004	0.16
Site 3	-0.008	0.005	-1.79
Site 4	0.001	0.006	0.18
Site 6	-0.010	0.004	-2.51
Site 7	0.0004	0.004	0.12
Site 8	-0.0001	0.004	-0.03
Age 31 to 45	-0.005	0.003	-1.88
Age 46 to 59	-0.006	0.003	-2.05
Age 60 or more	-0.021	0.007	-3.16
Not permanently disabled	0.011	0.004	3.15
Permanent disability status missing	0.014	0.005	2.87
Education high school	-0.012	0.004	-3.53
Education college or above	-0.024	0.006	-3.93
Education missing	0.001	0.004	0.38
Constant	0.597	0.014	42.86
Overall impact estimate for SSI recipients (average of site impacts)	0.001	0.008	0.16

Sample size: 28,421

R-squared: .056